

FIG. 1A

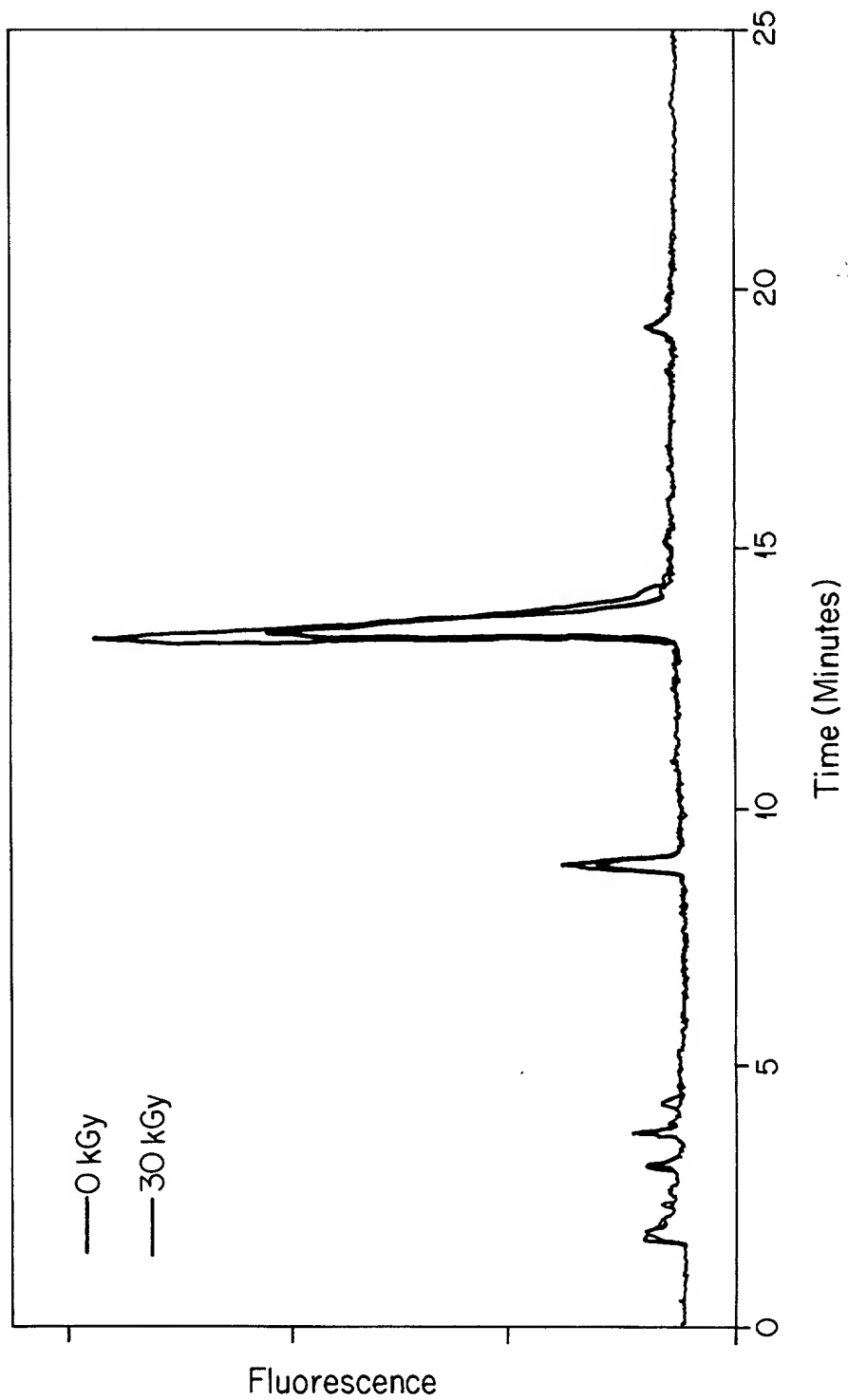


FIG. 1C

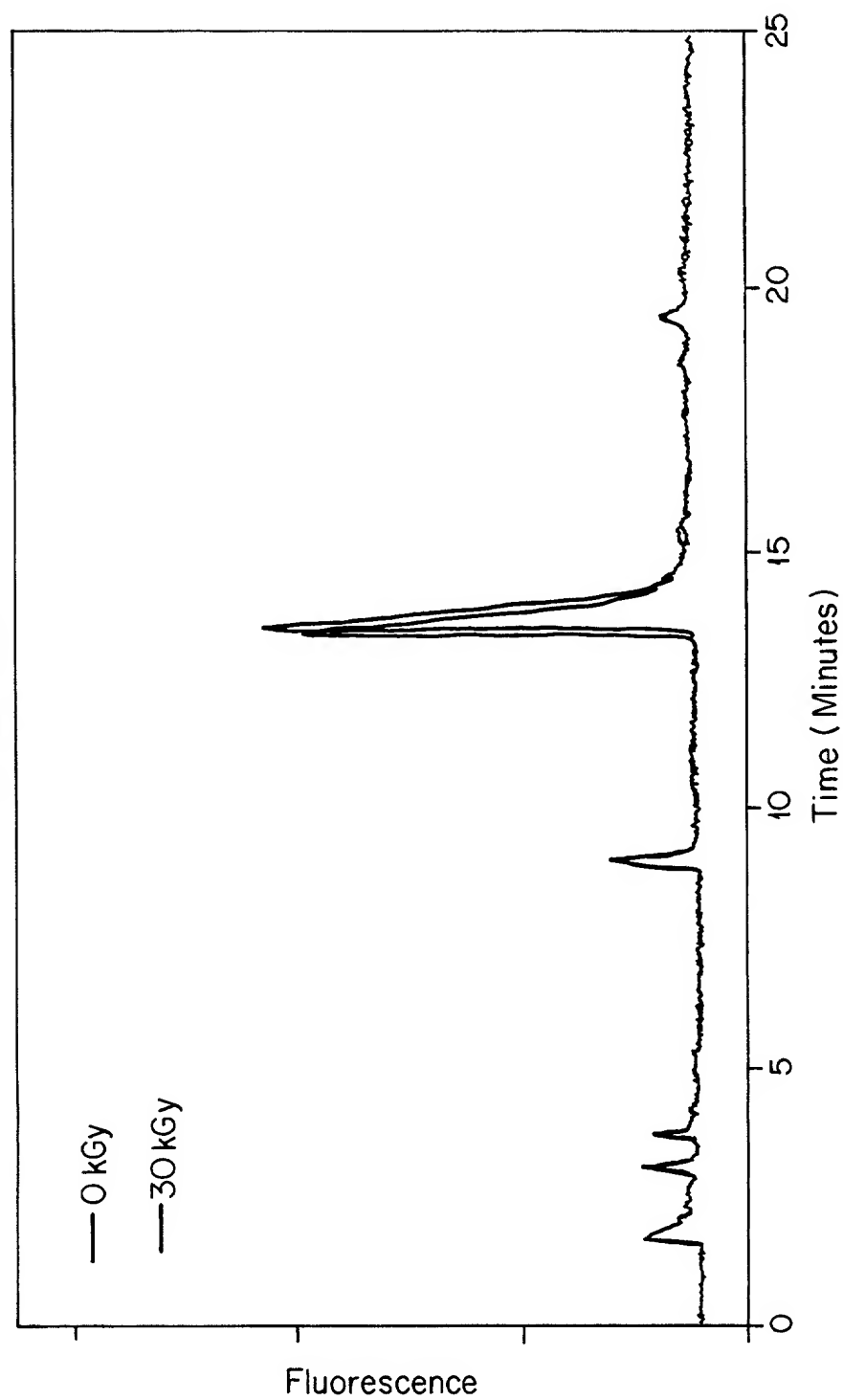


FIG. 2A

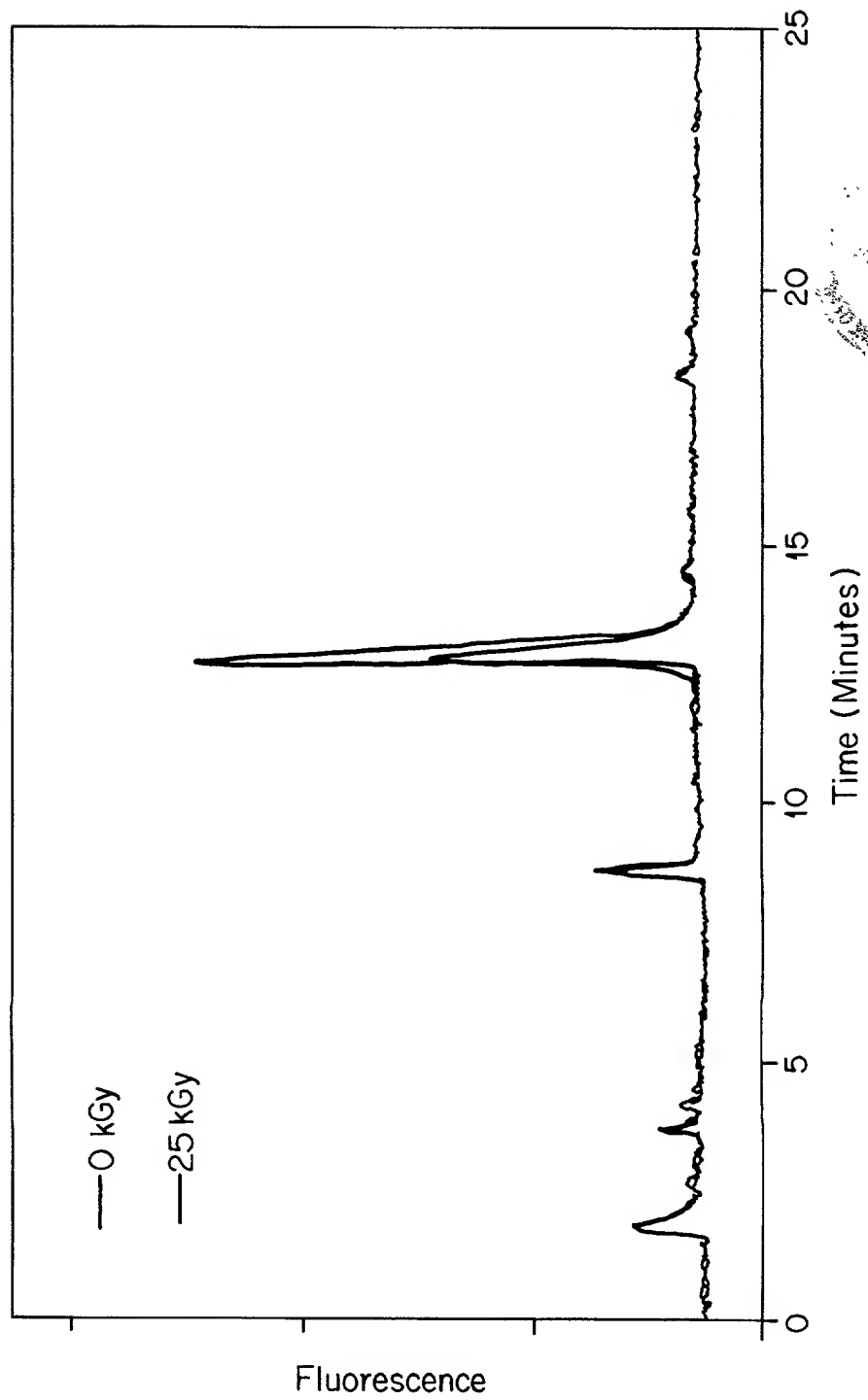


FIG. 2B

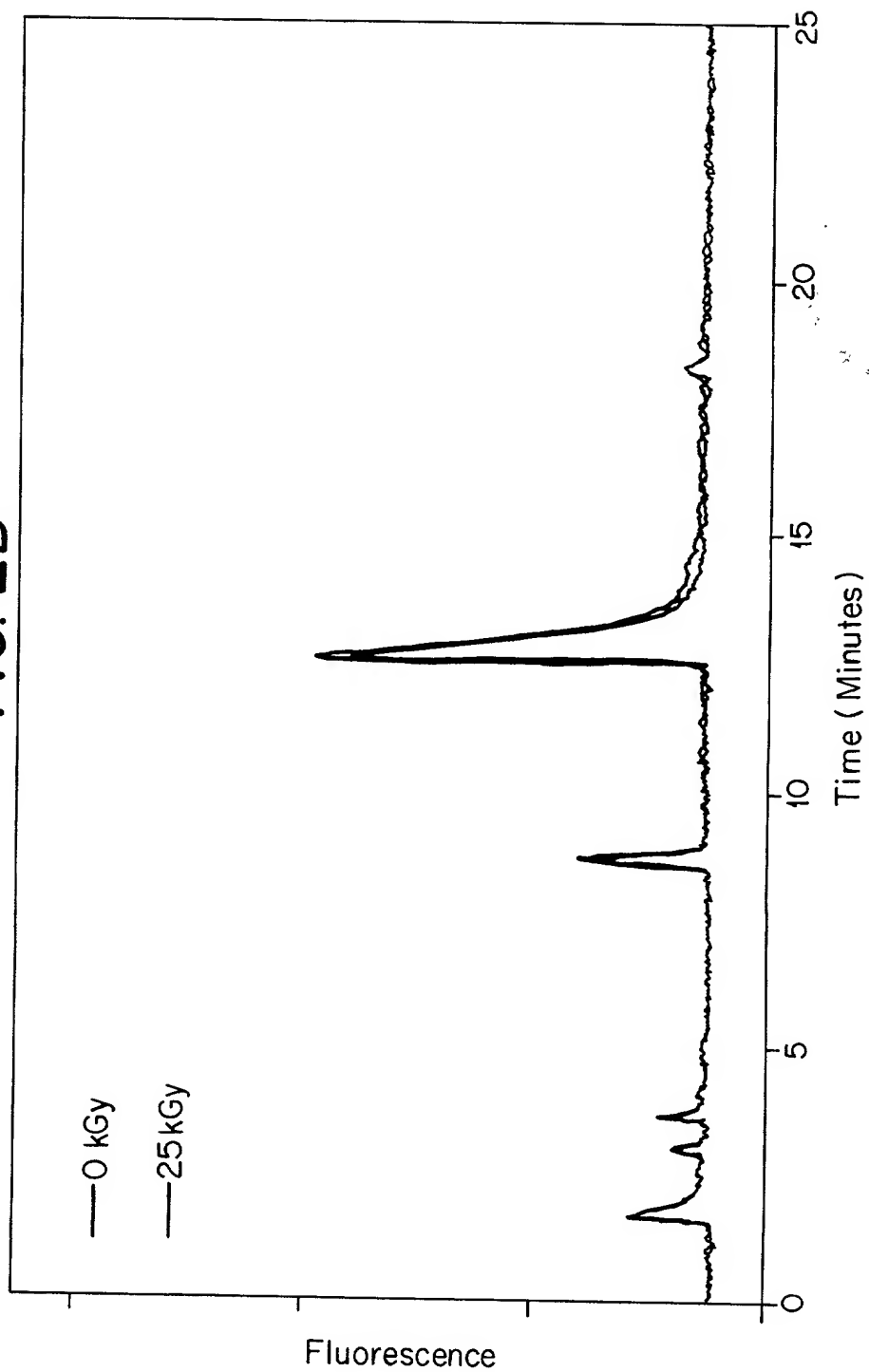


FIG. 1D

REDUCED

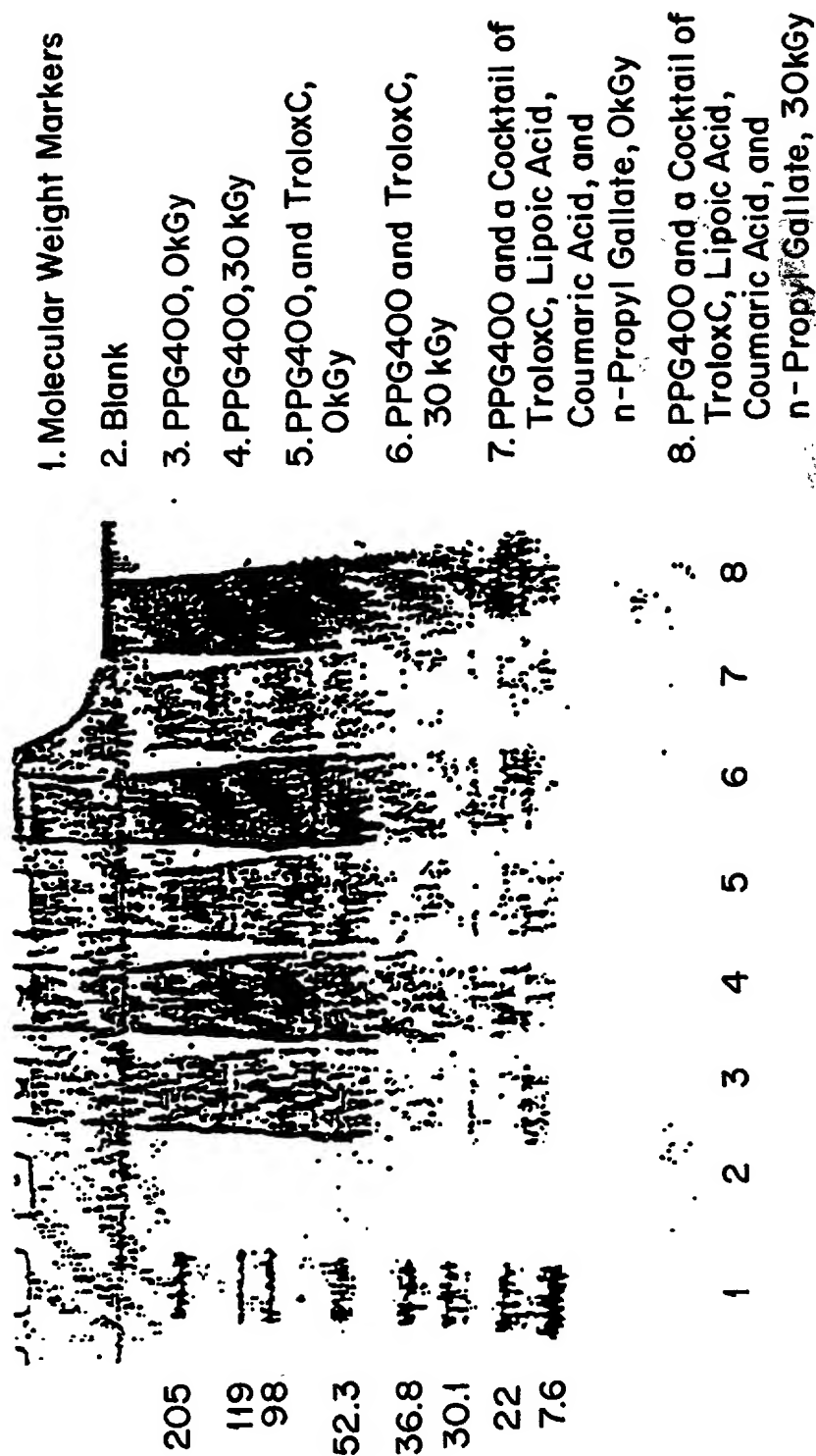


FIG. 2C

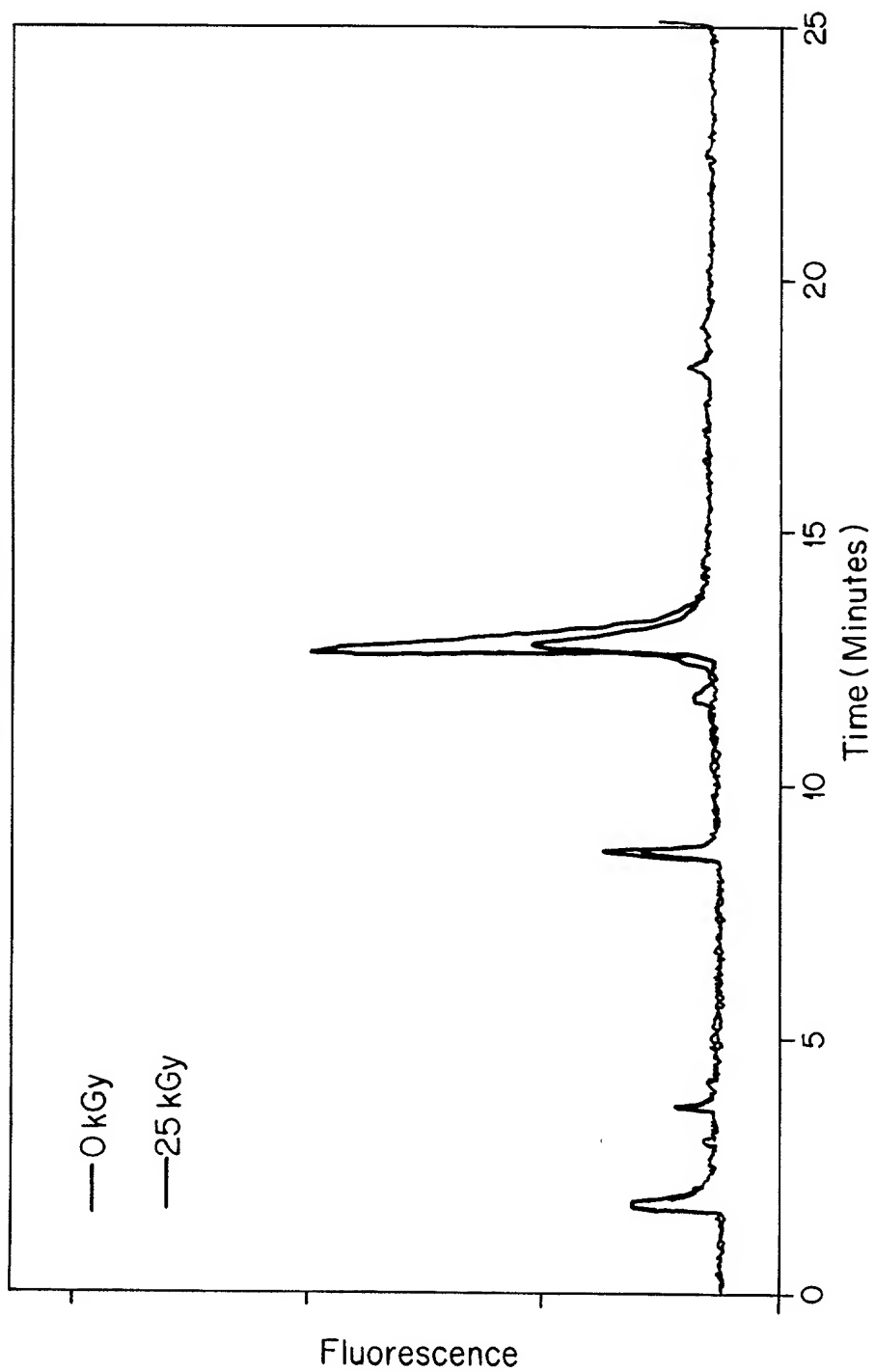


FIG. 2D

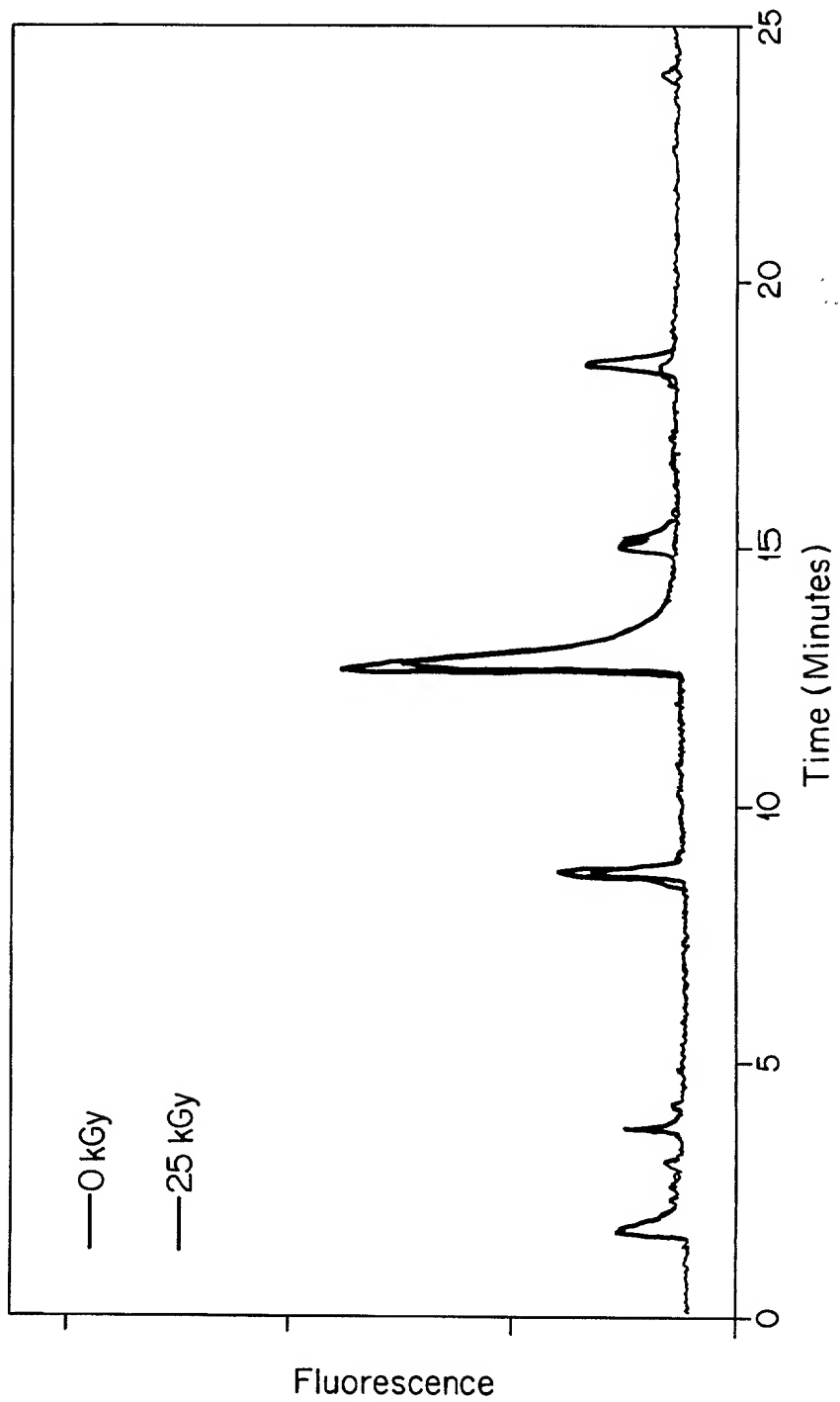


FIG. 2E

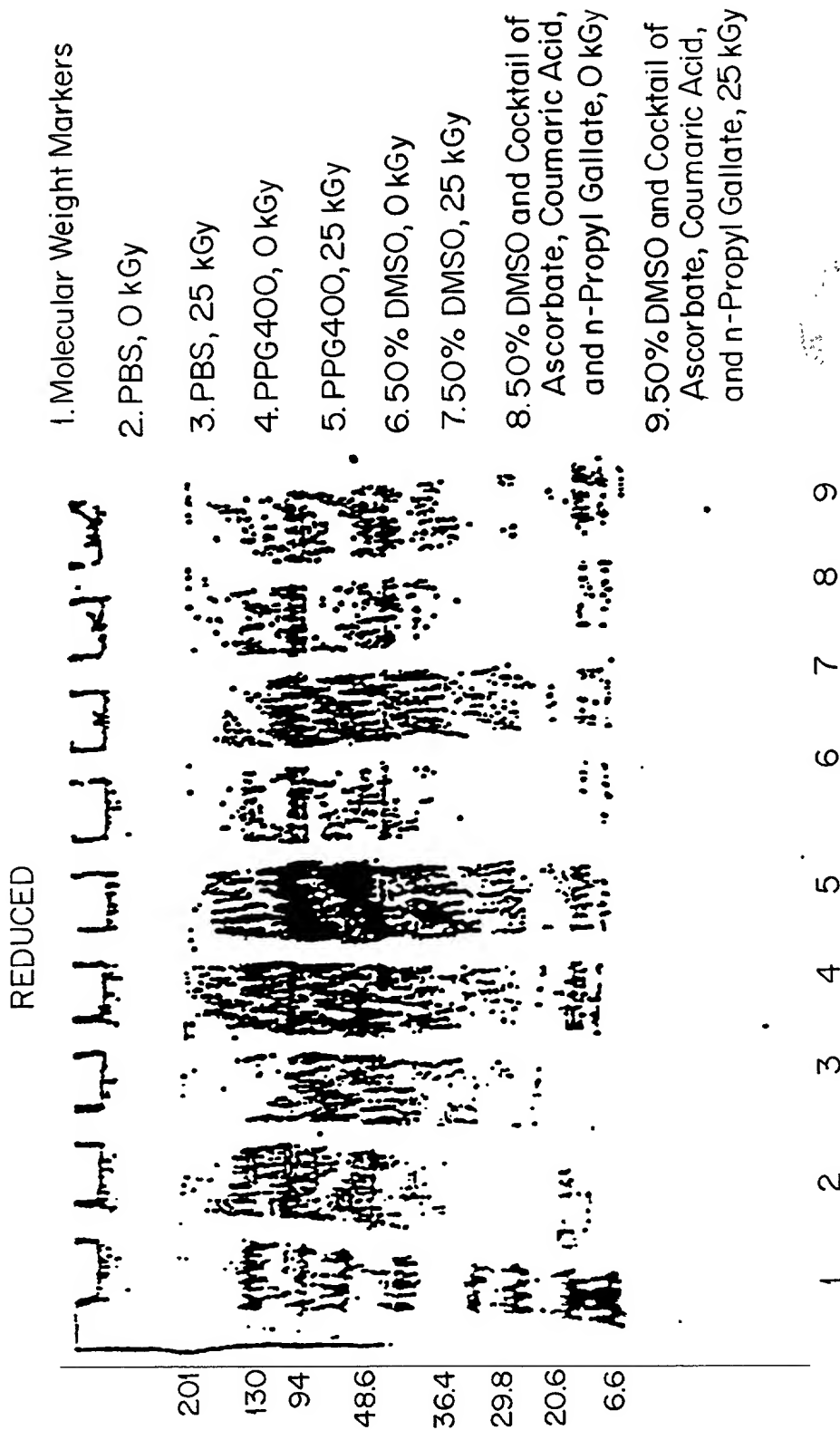


FIG. 3A

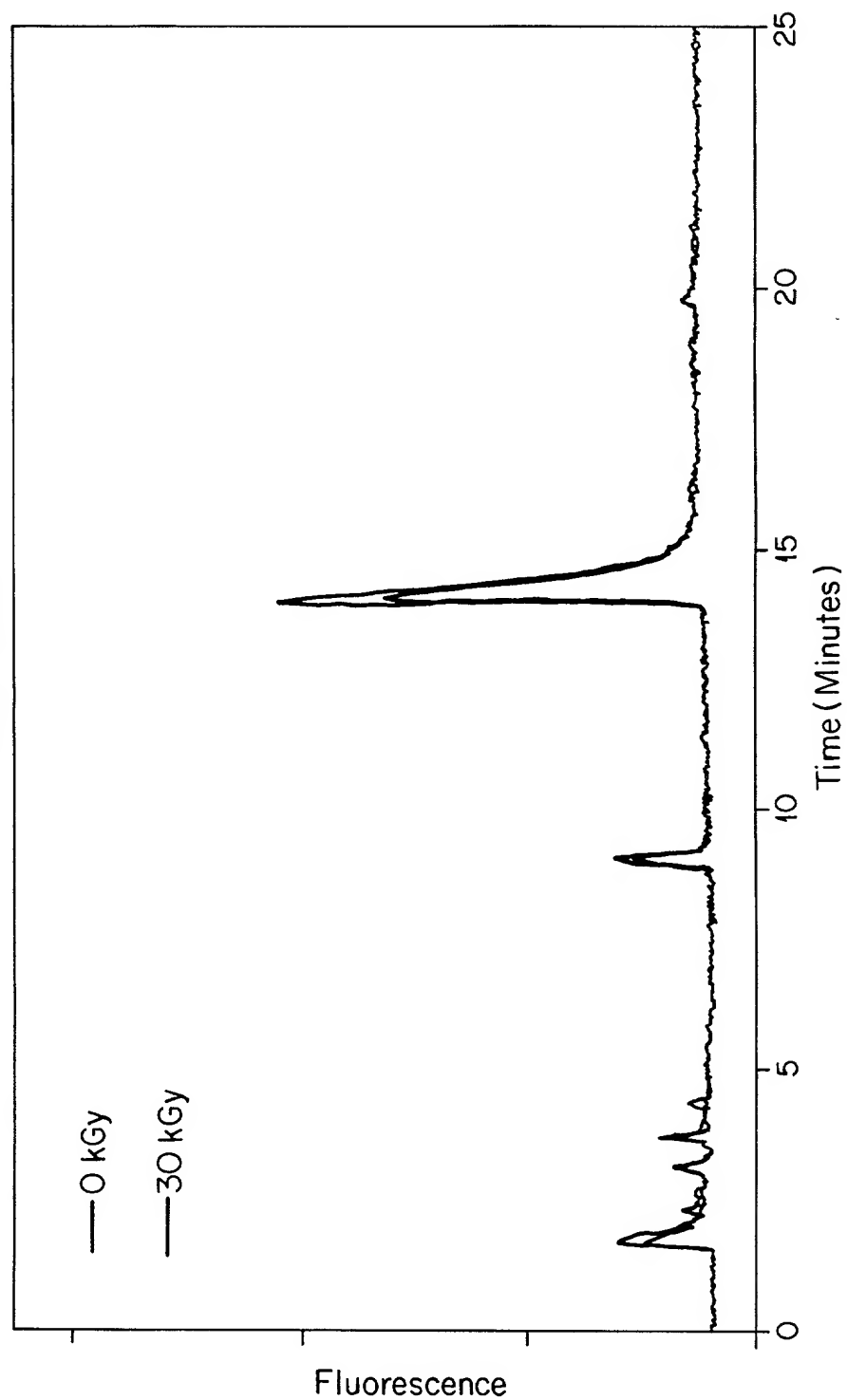


FIG. 3B

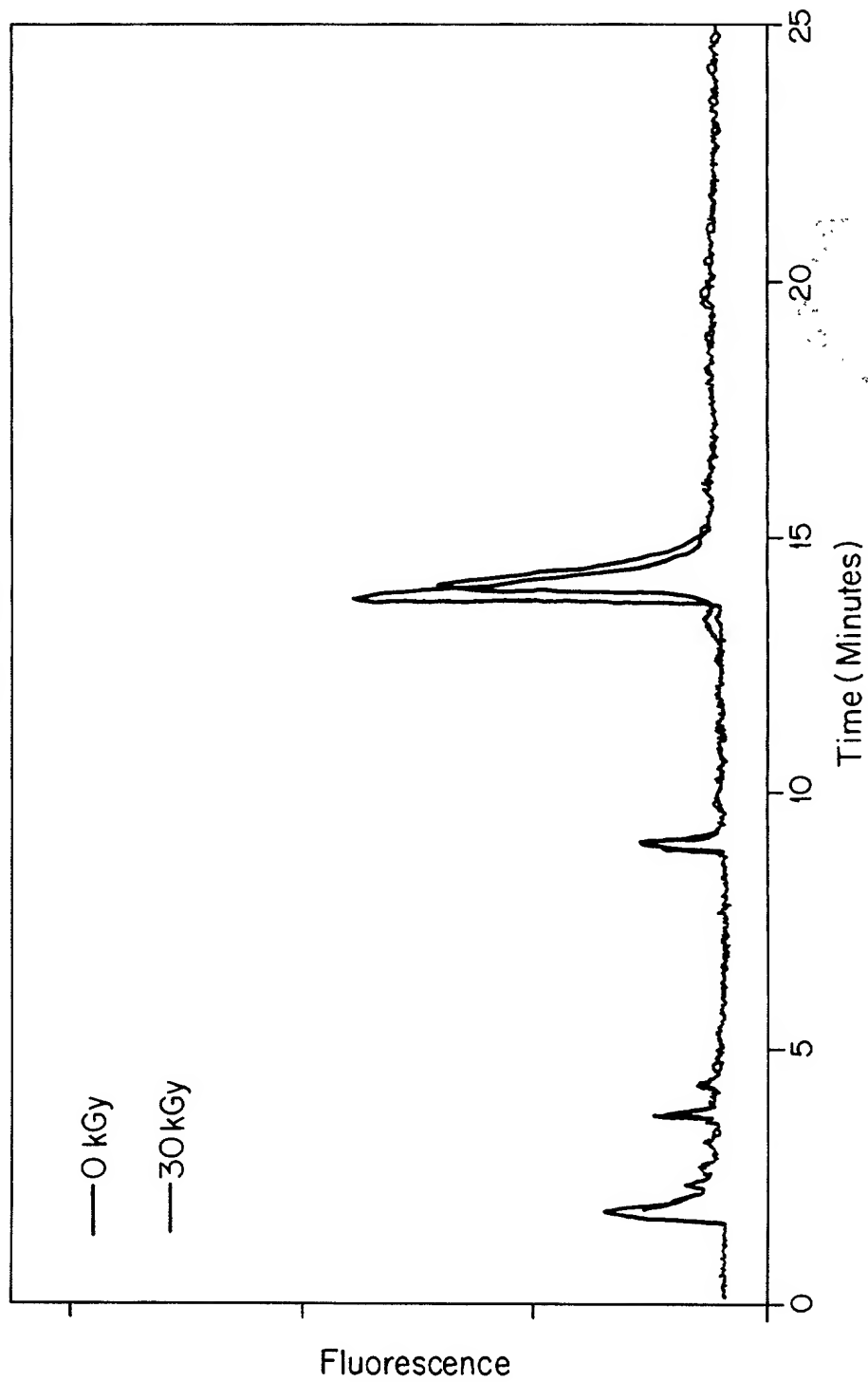


FIG. 3C

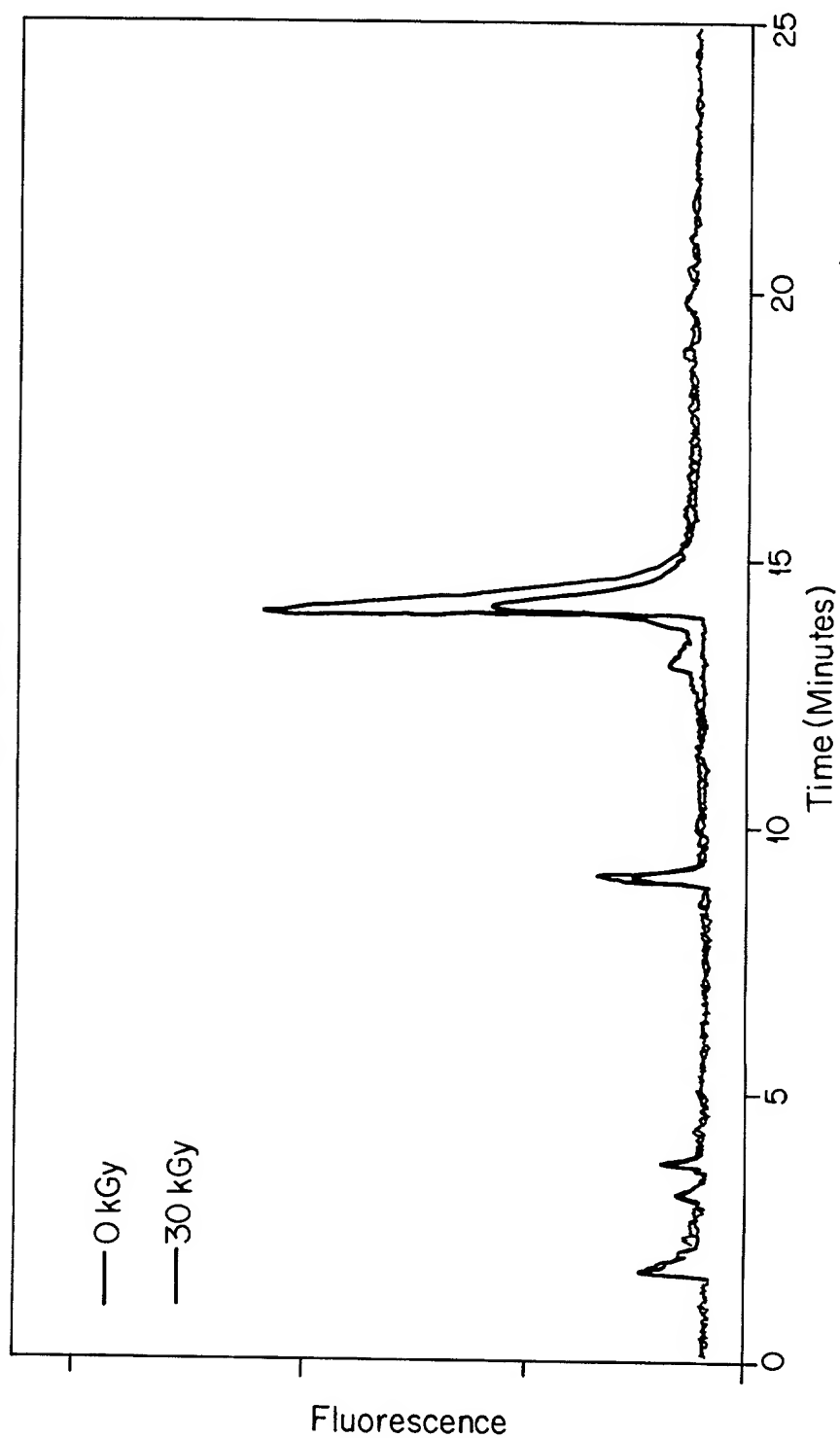
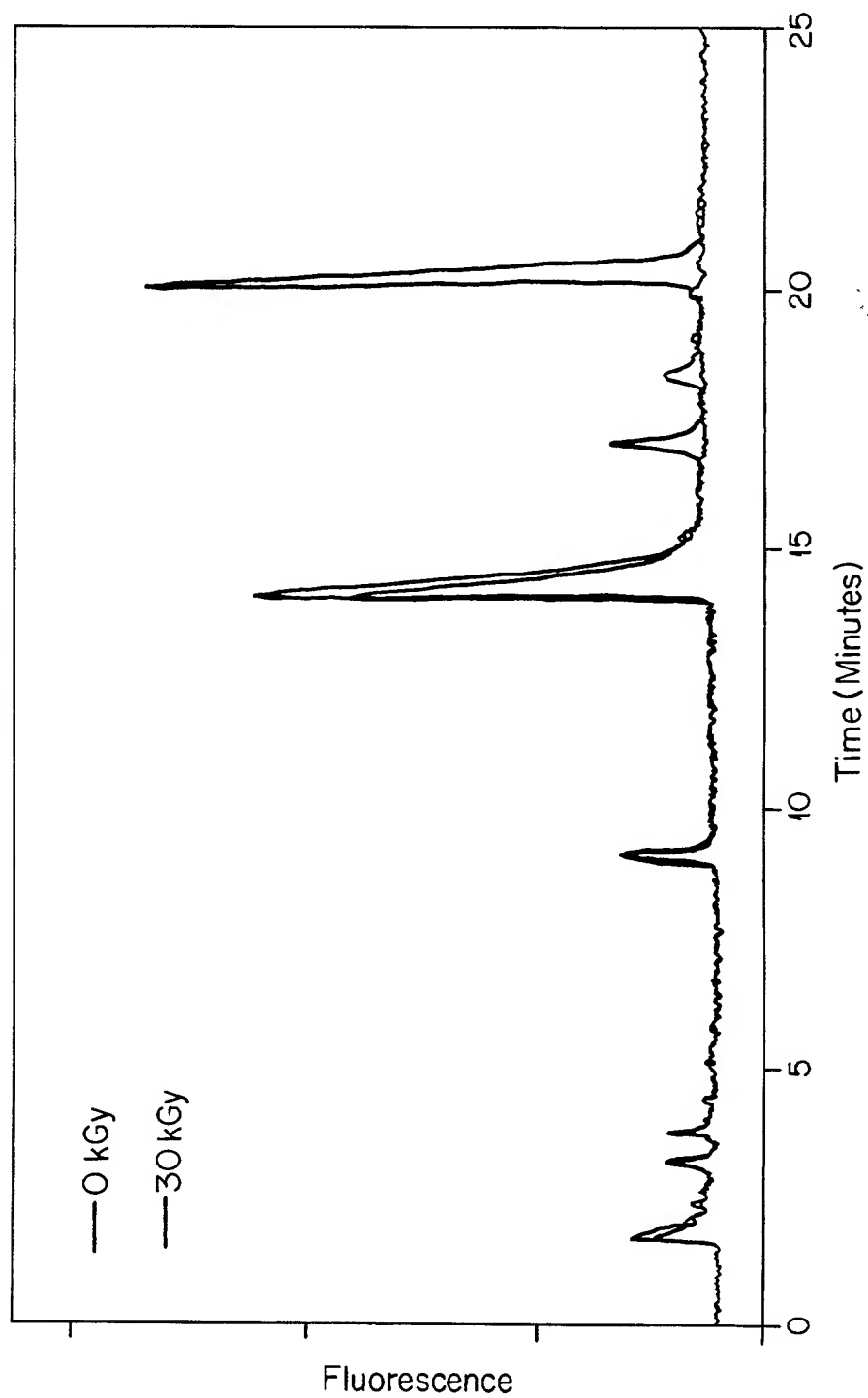


FIG. 3D



REDUCED

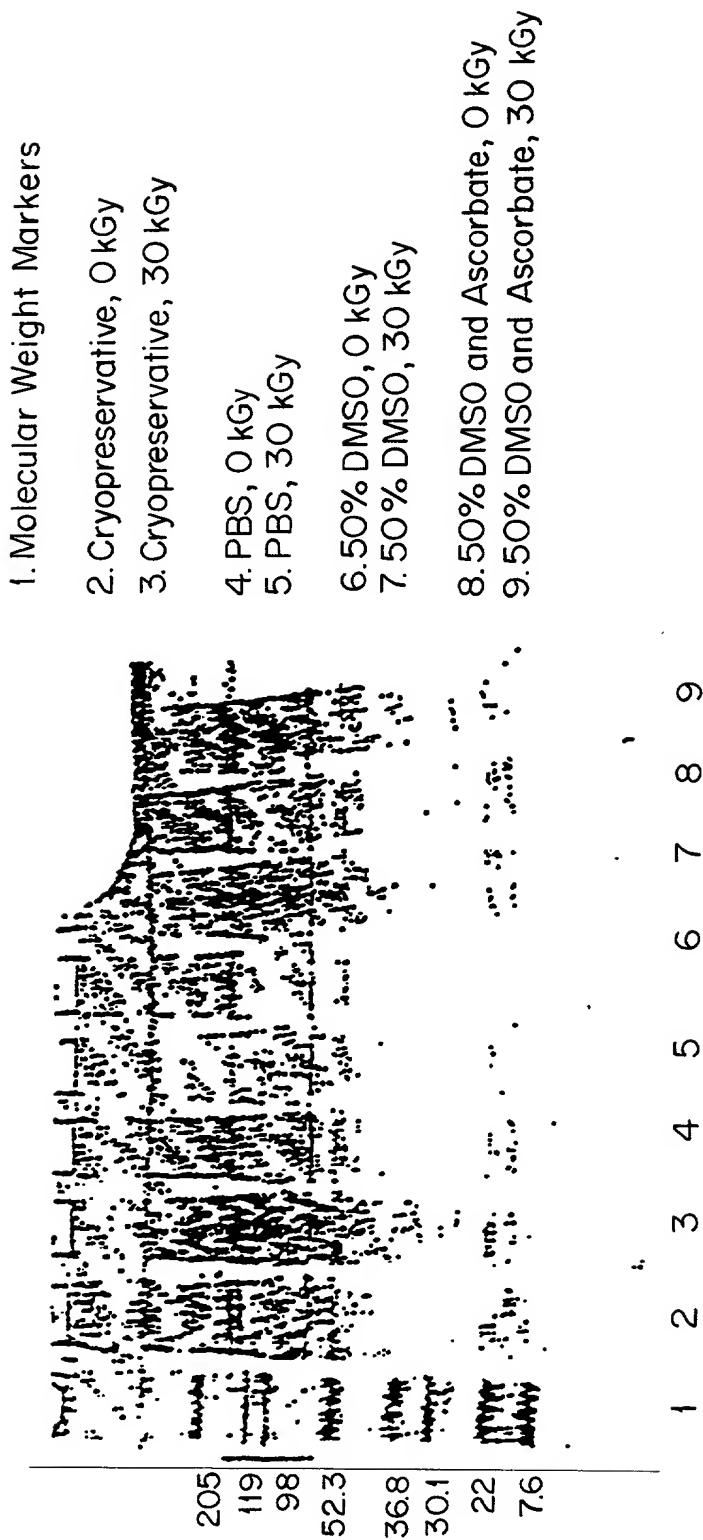


FIG. 4A

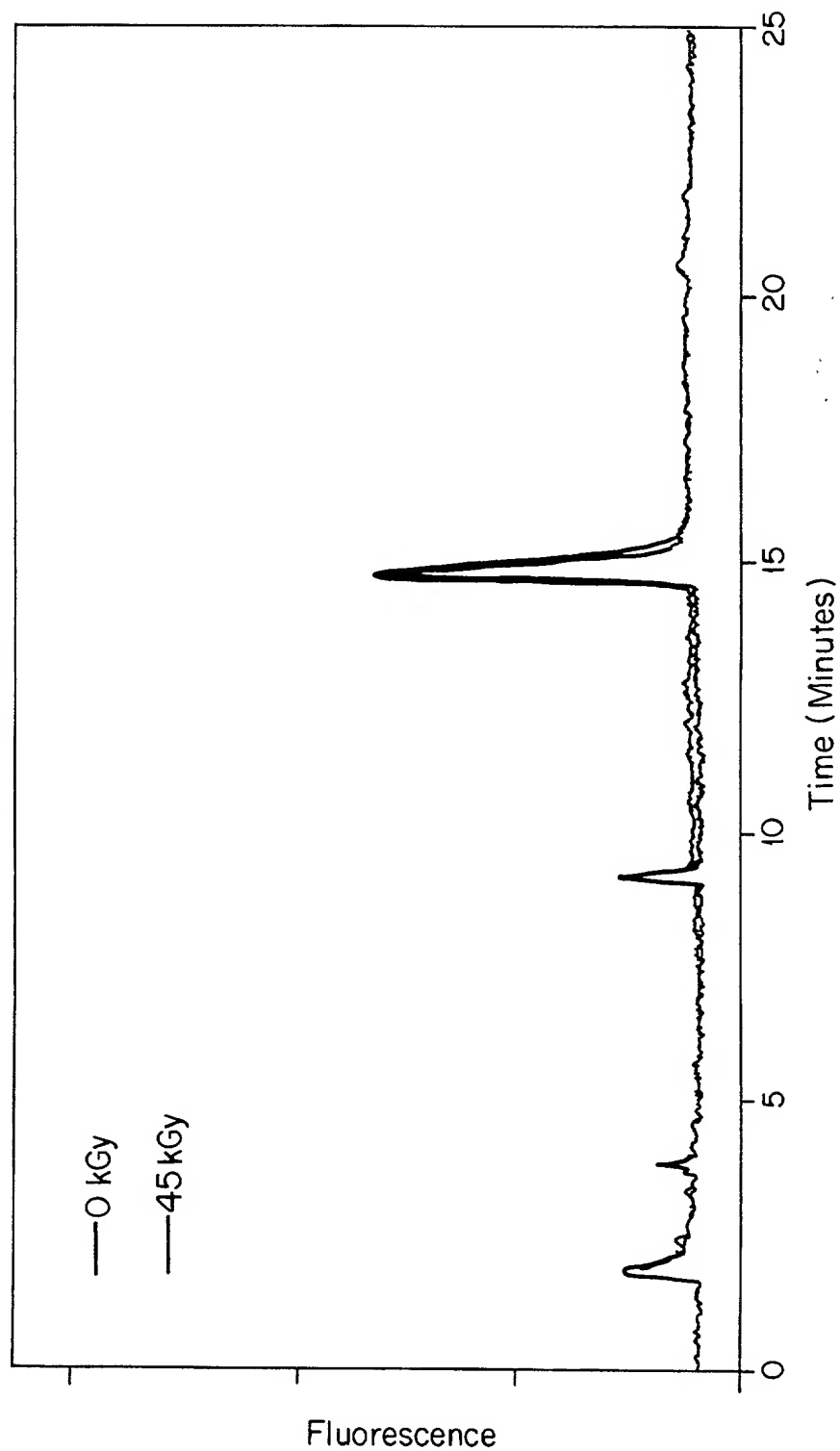


FIG. 4B

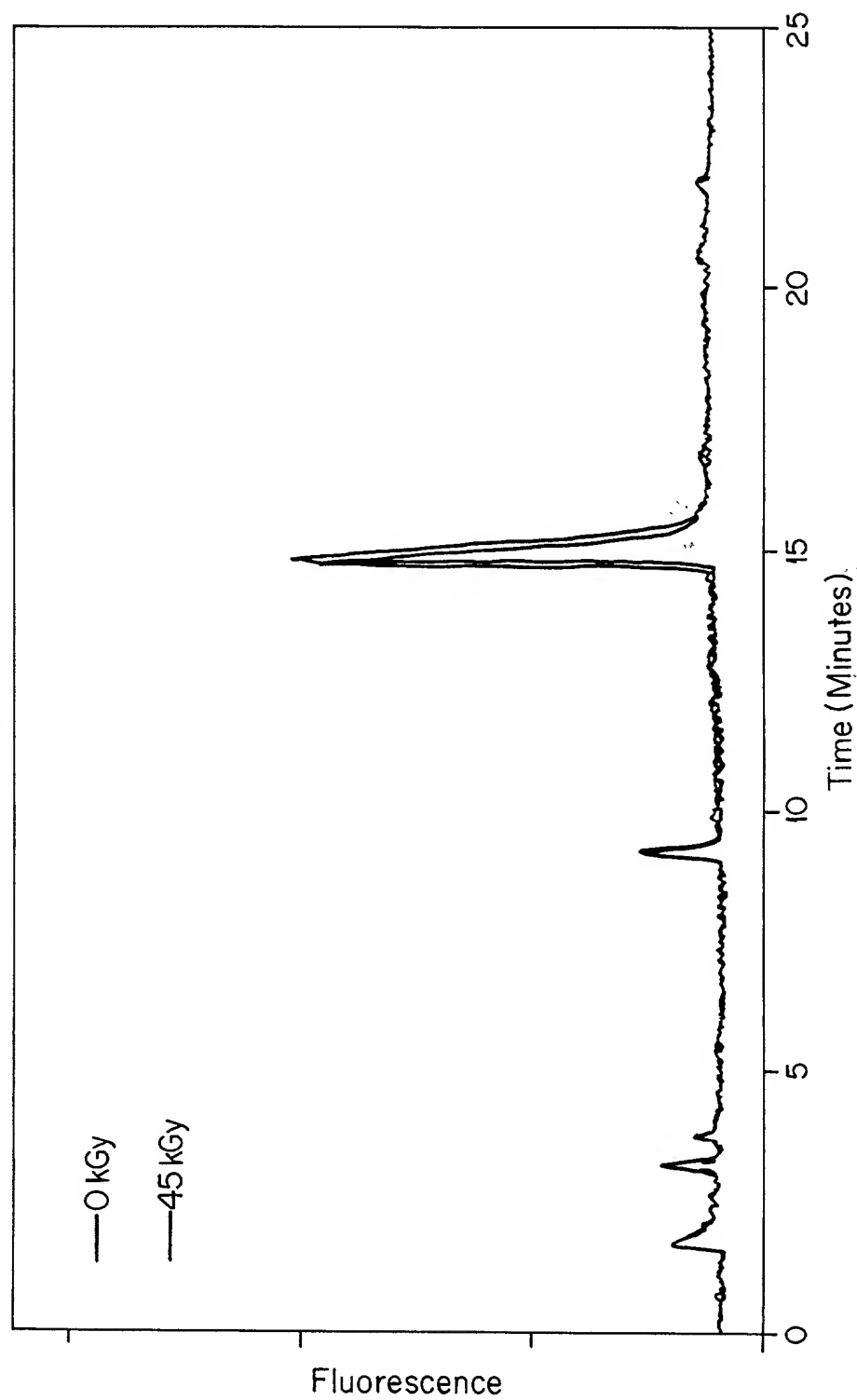


FIG. 4C

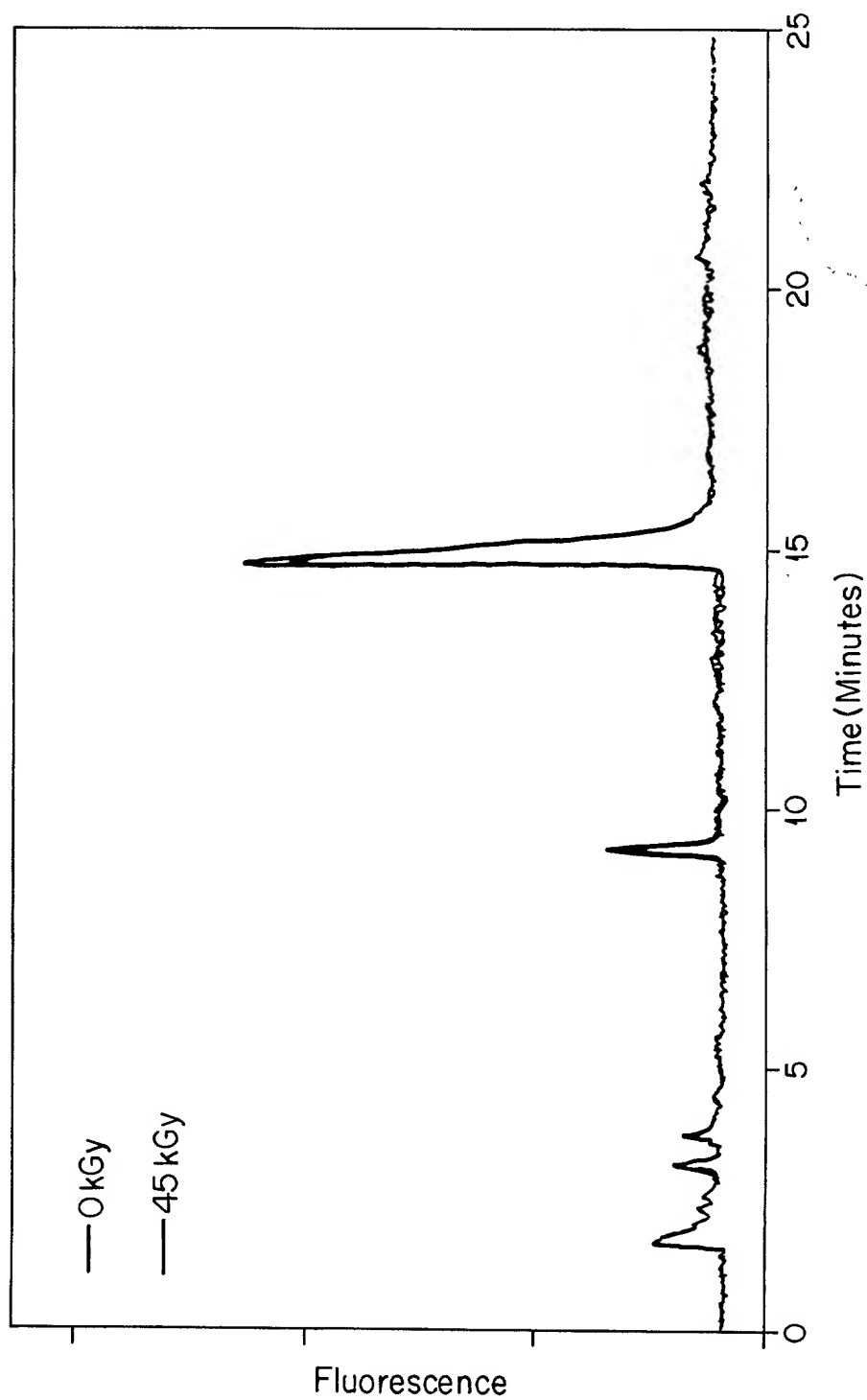


FIG. 4D

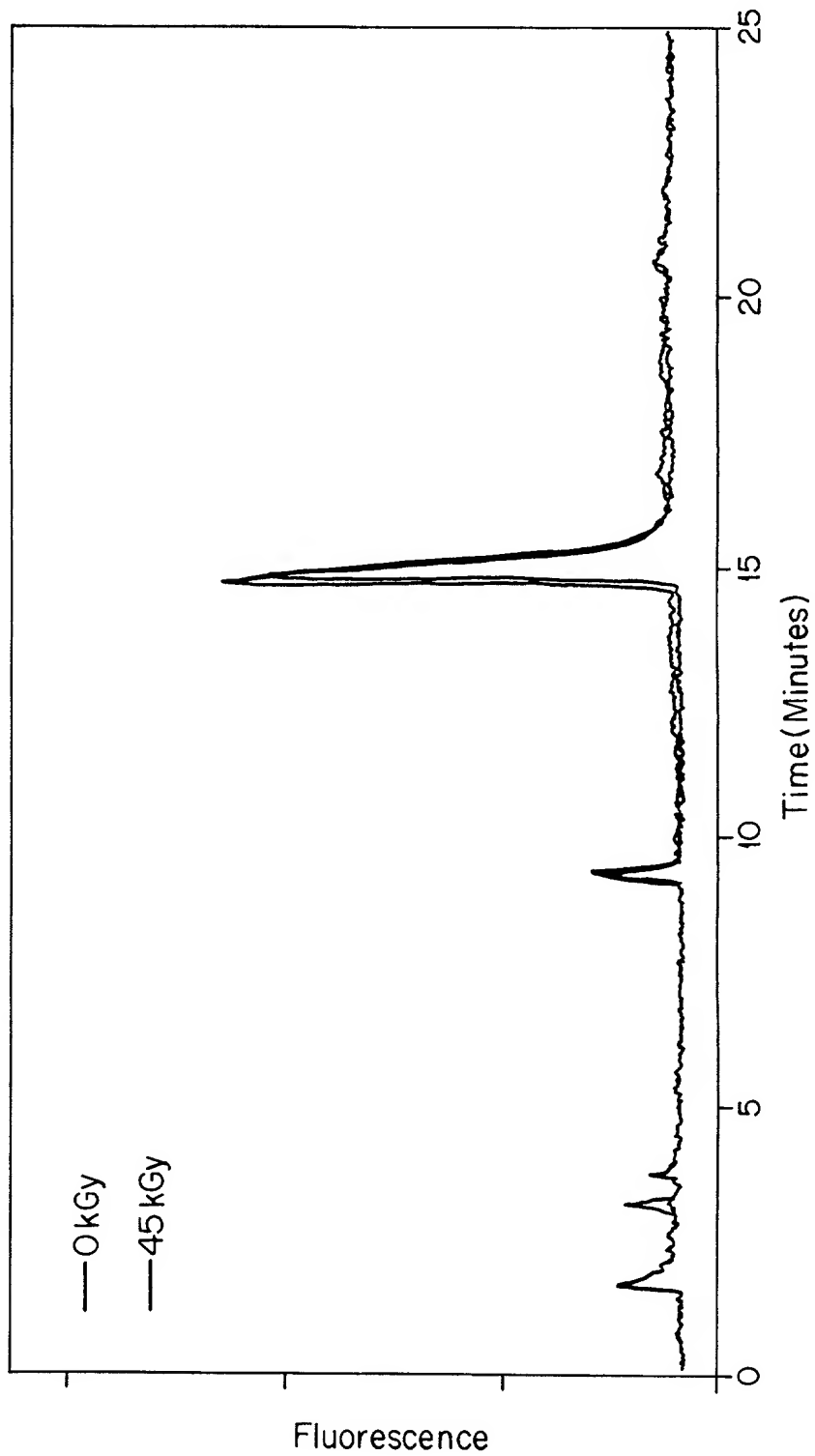


FIG. 4E

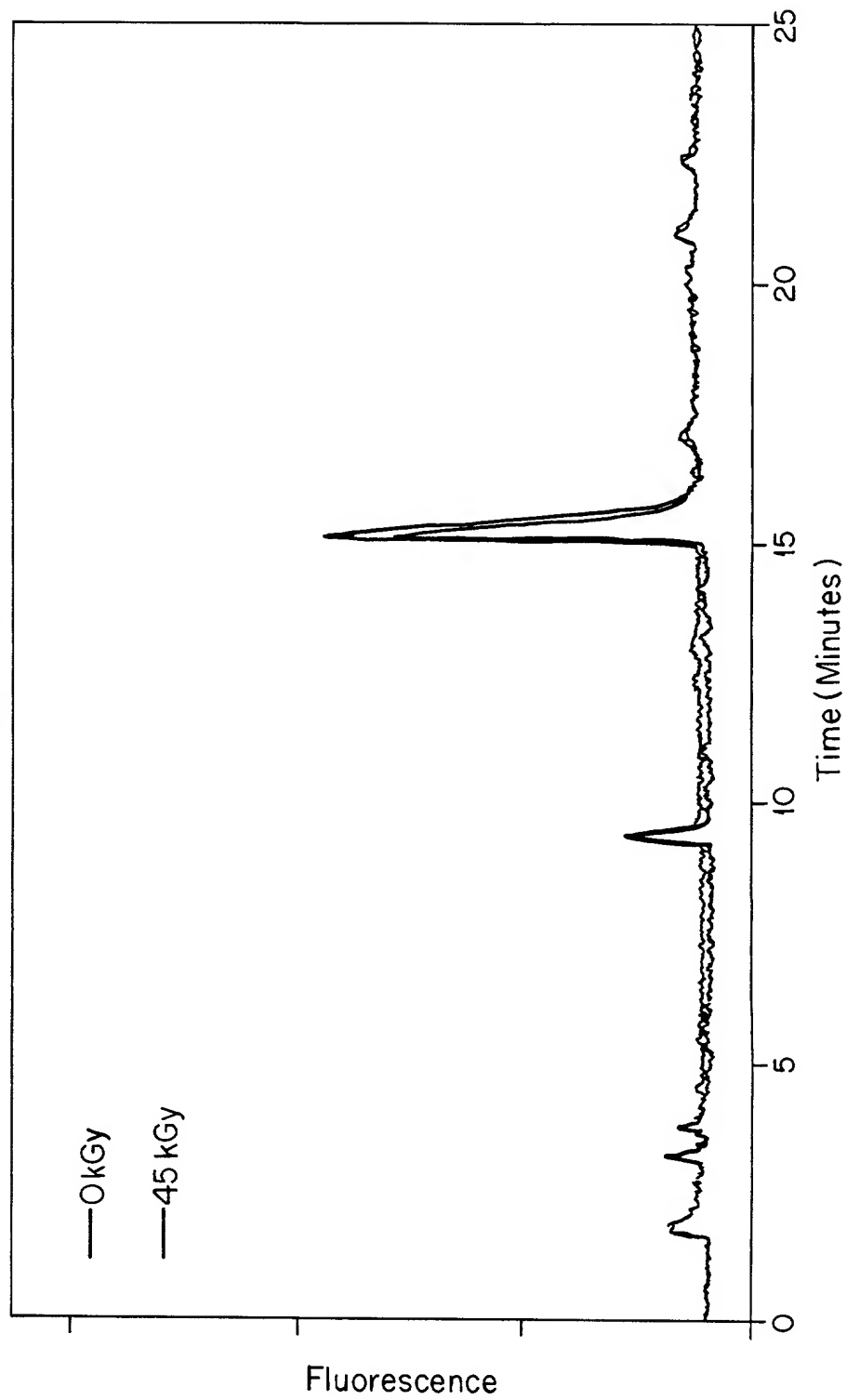


FIG. 4F

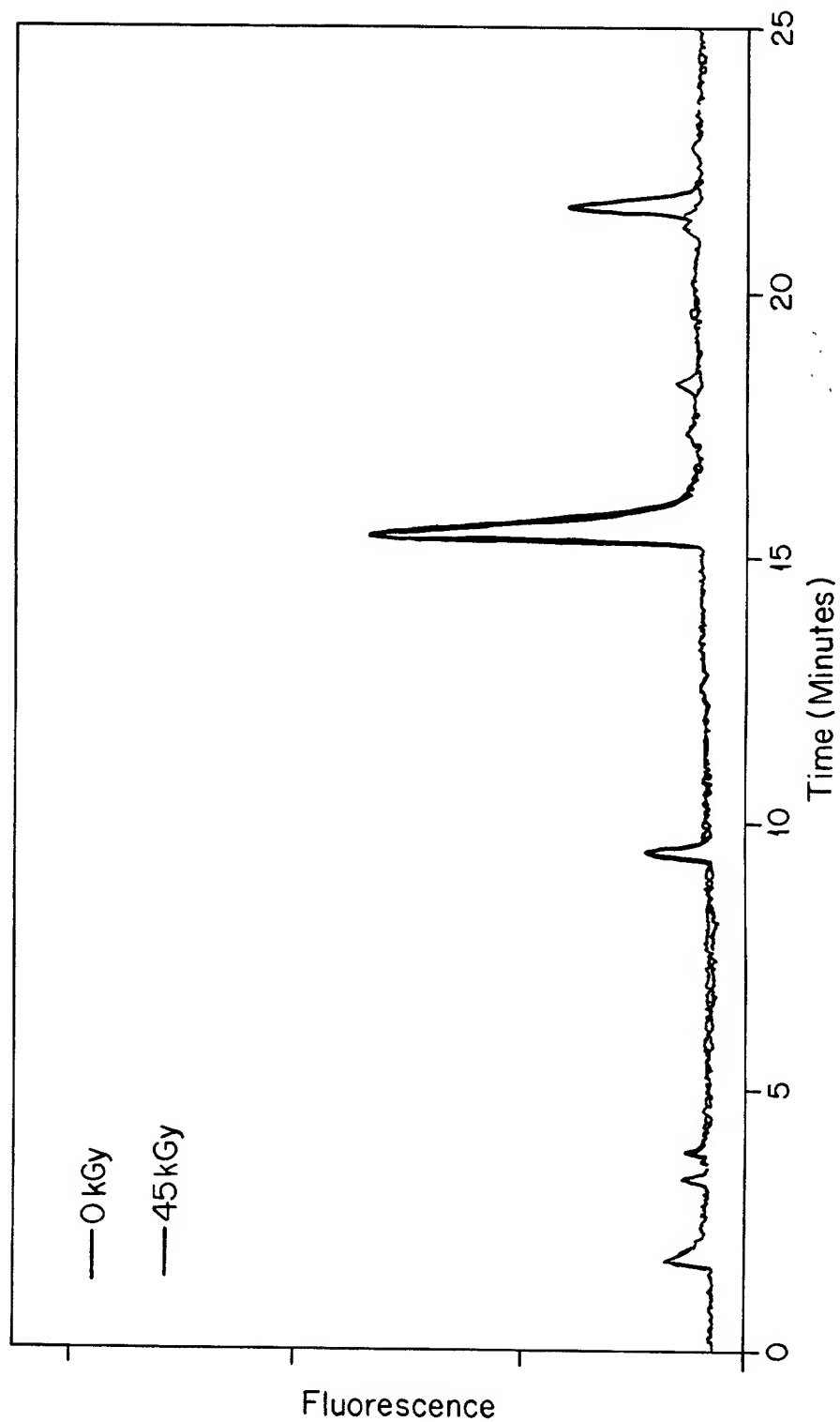
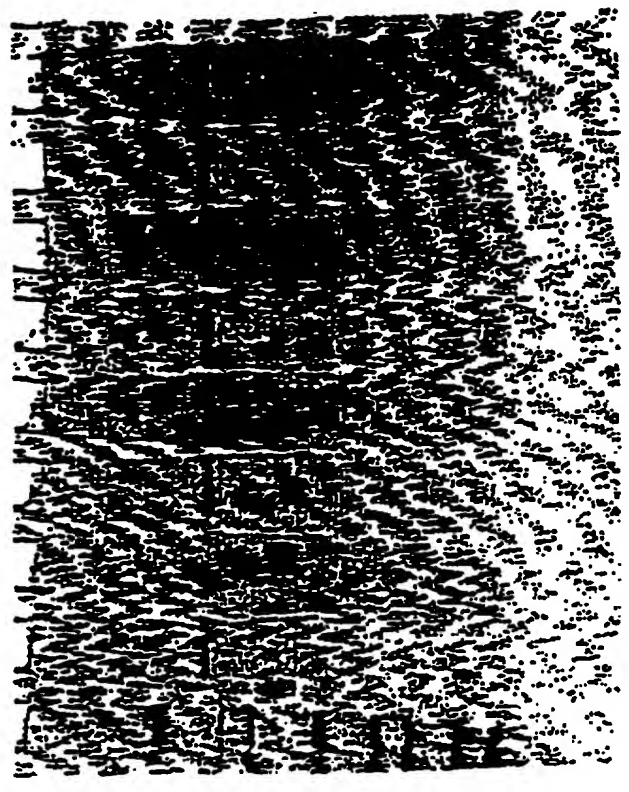


FIG. 4G

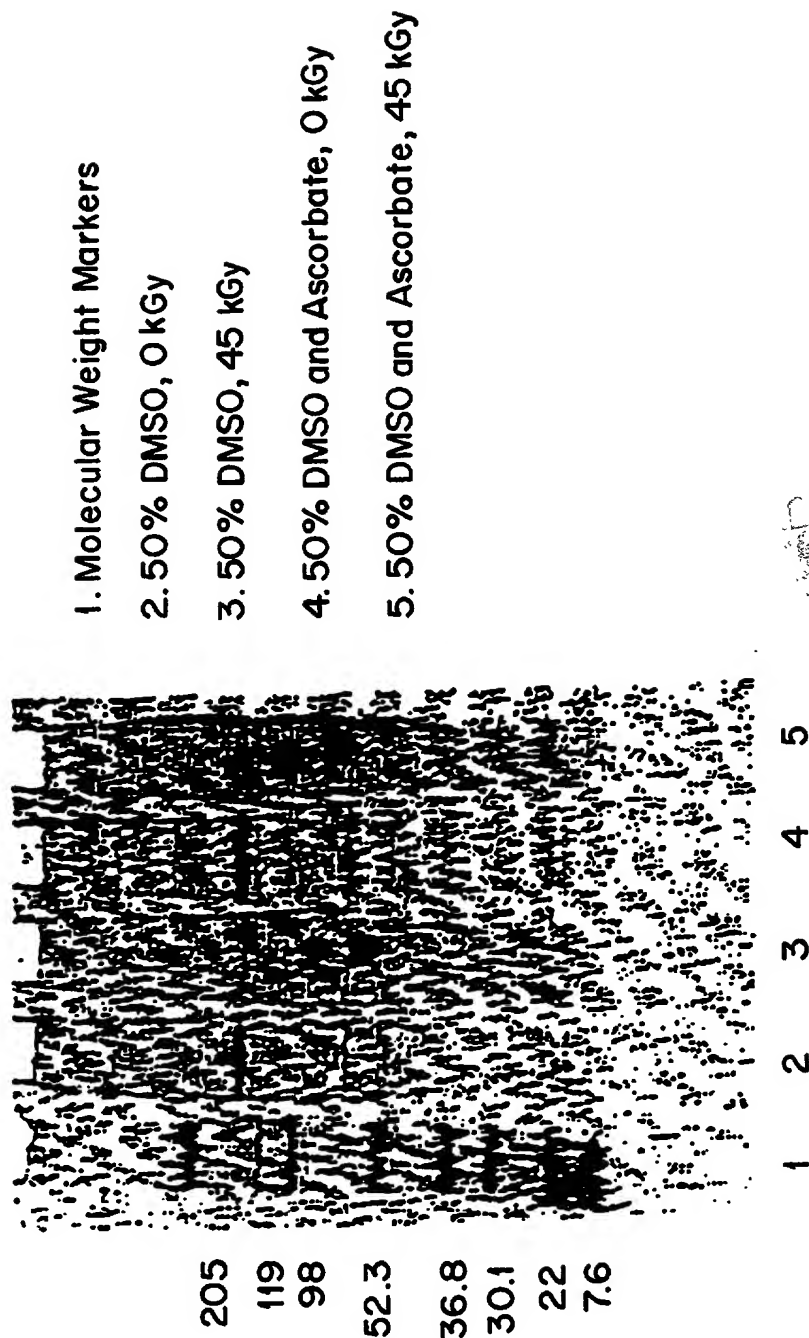
1. Molecular Weight Markers
2. PBS, 0 kGy
3. PBS, 45 kGy
4. PBS and Ascorbate, 0 kGy
5. PBS and Ascorbate, 45 kGy
6. PPG400, 0 kGy
7. PPG400, 45 kGy
8. Dehydrated in PPG400 and Rehydrated with PBS and Ascorbate, 0 kGy
9. Dehydrated in PPG400 and Rehydrated with PBS and Ascorbate, 45 kGy



205
119
98
52.3
36.8
30.1
22
7.6

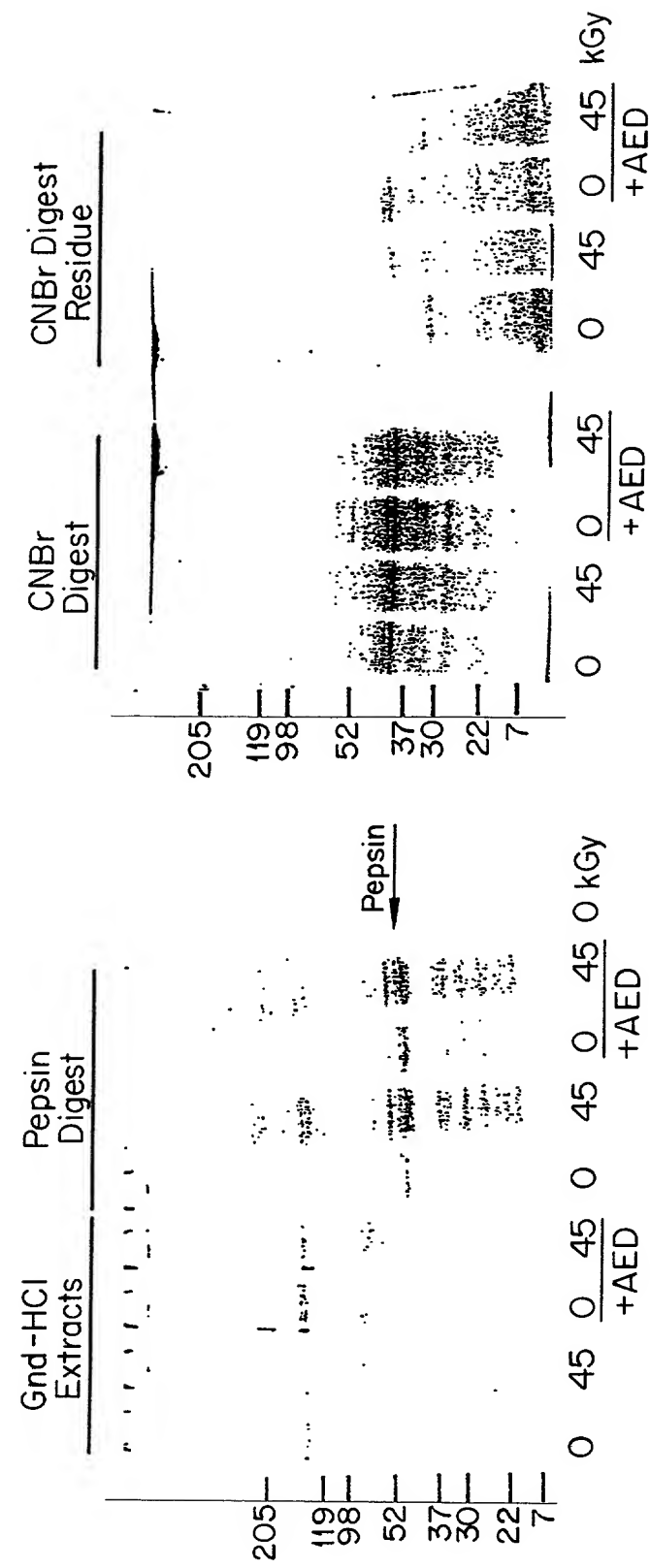
1 2 3 4 5 6 7 8 9

FIG. 4H



Handwritten signature or initials.

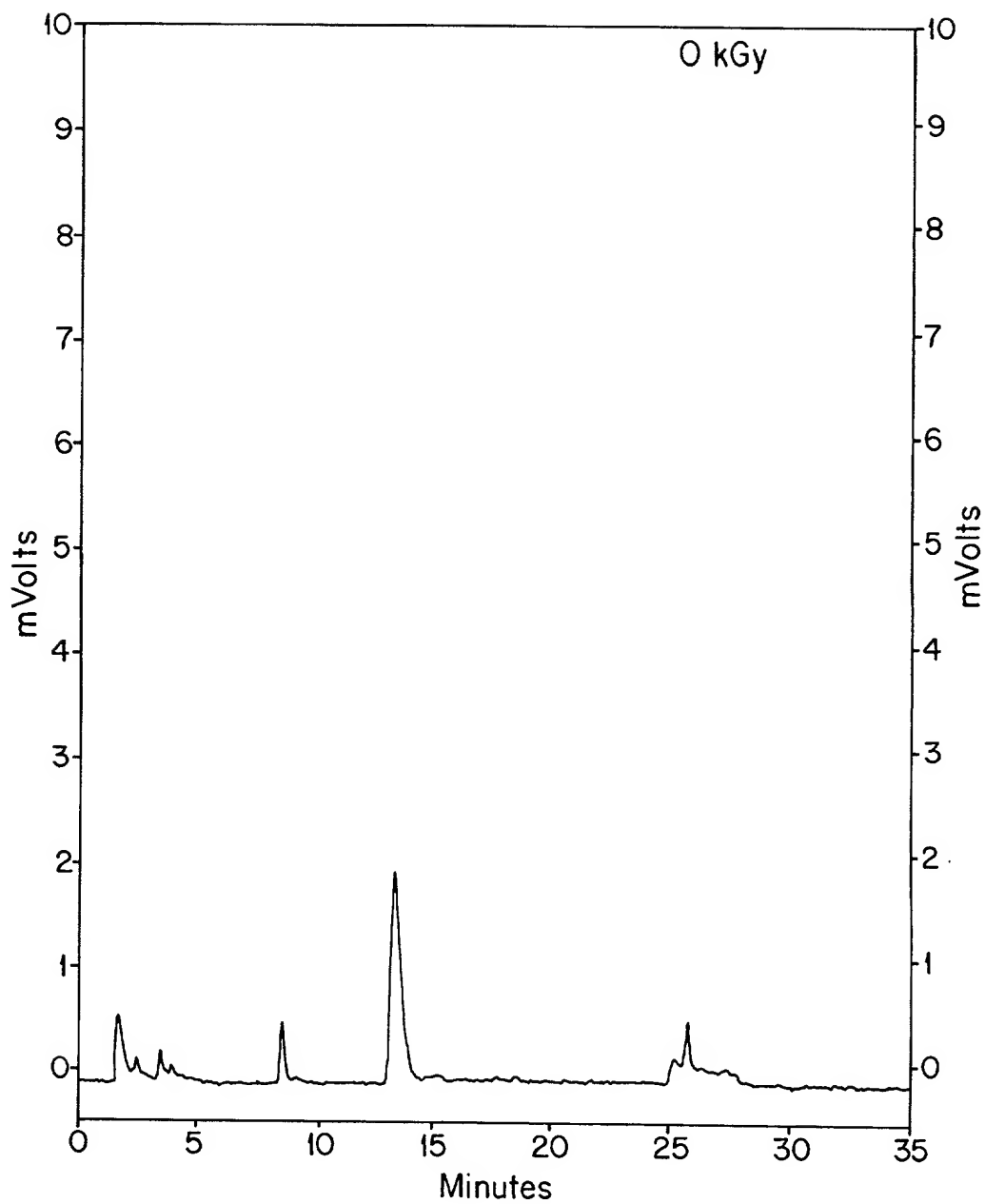
FIG. 5A



AED=100 mM Ascorbate, 22 mM Ergothionine, 100 mM Deferoxamine

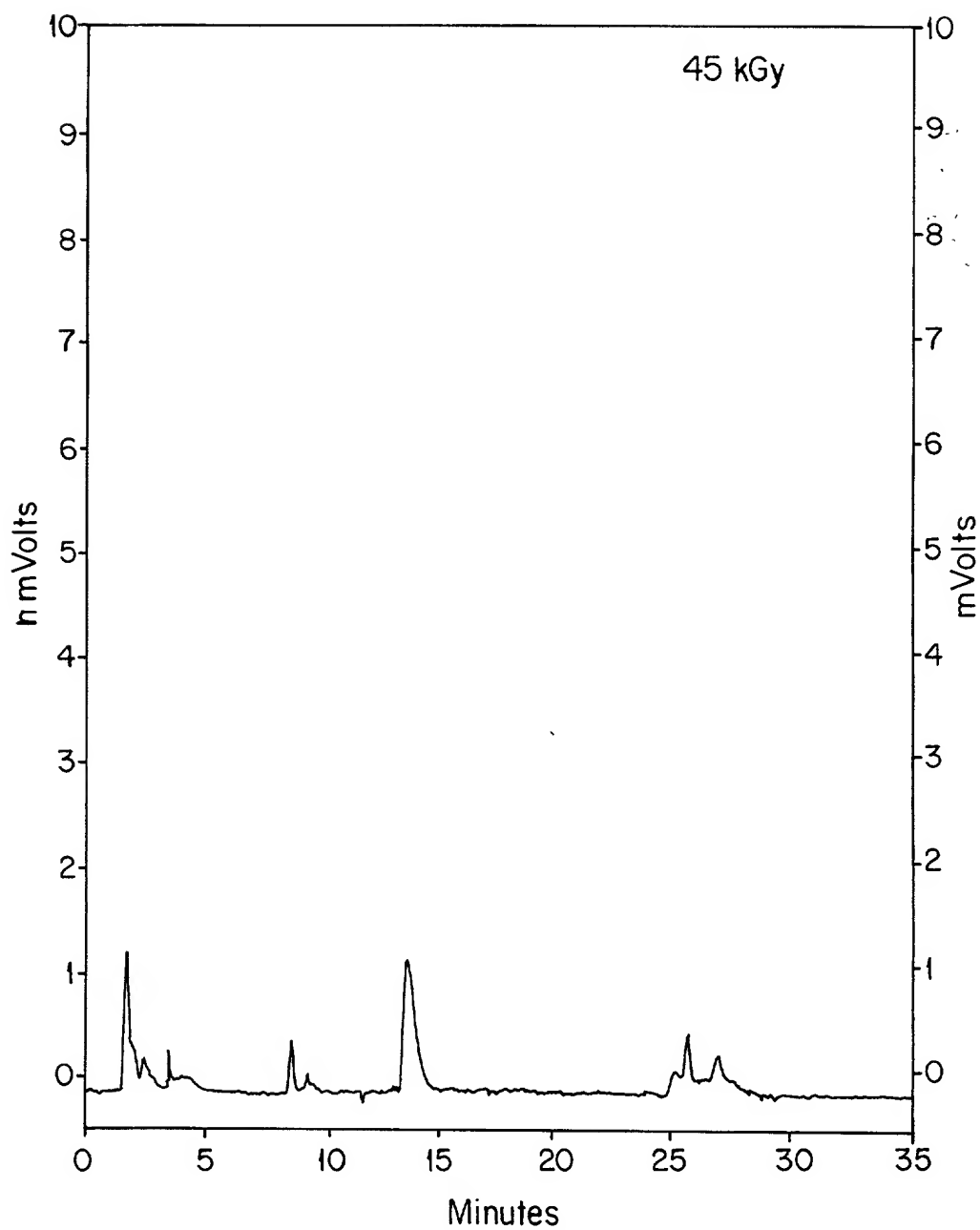
20210908.061202

FIG. 5B



20210908 061207 10050203

FIG. 5C



202150 30209001

FIG. 5D

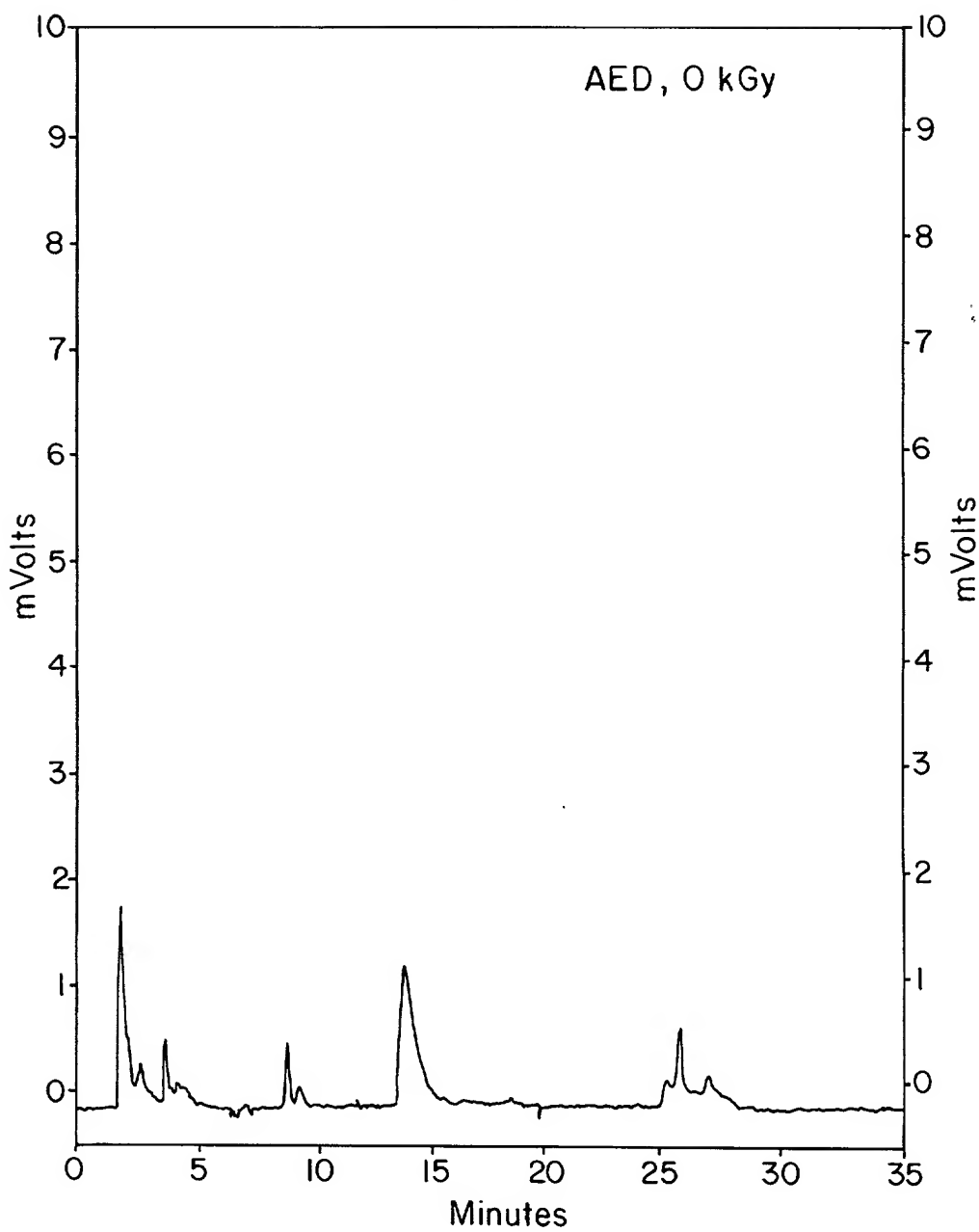


FIG. 5E

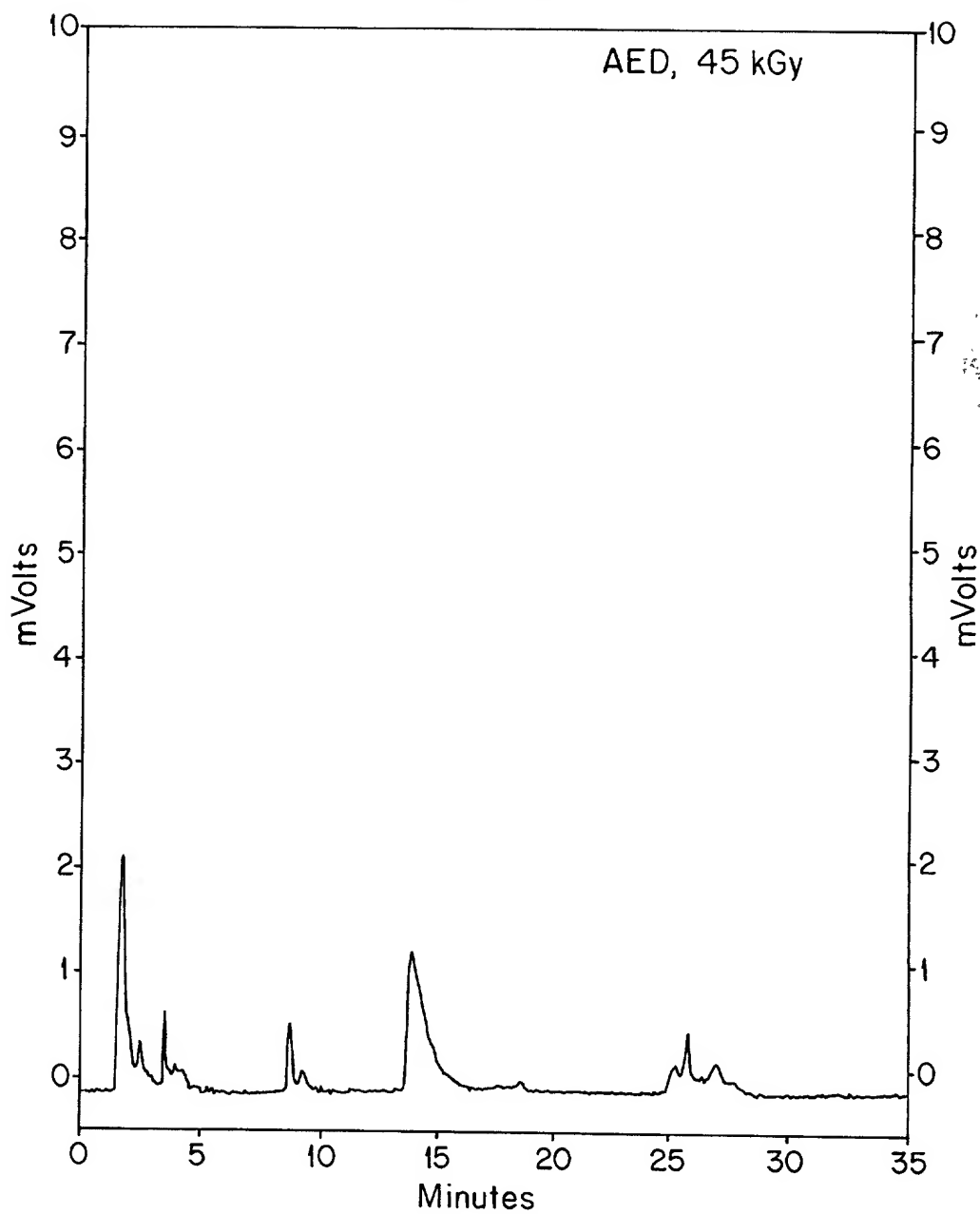


FIG. 6A

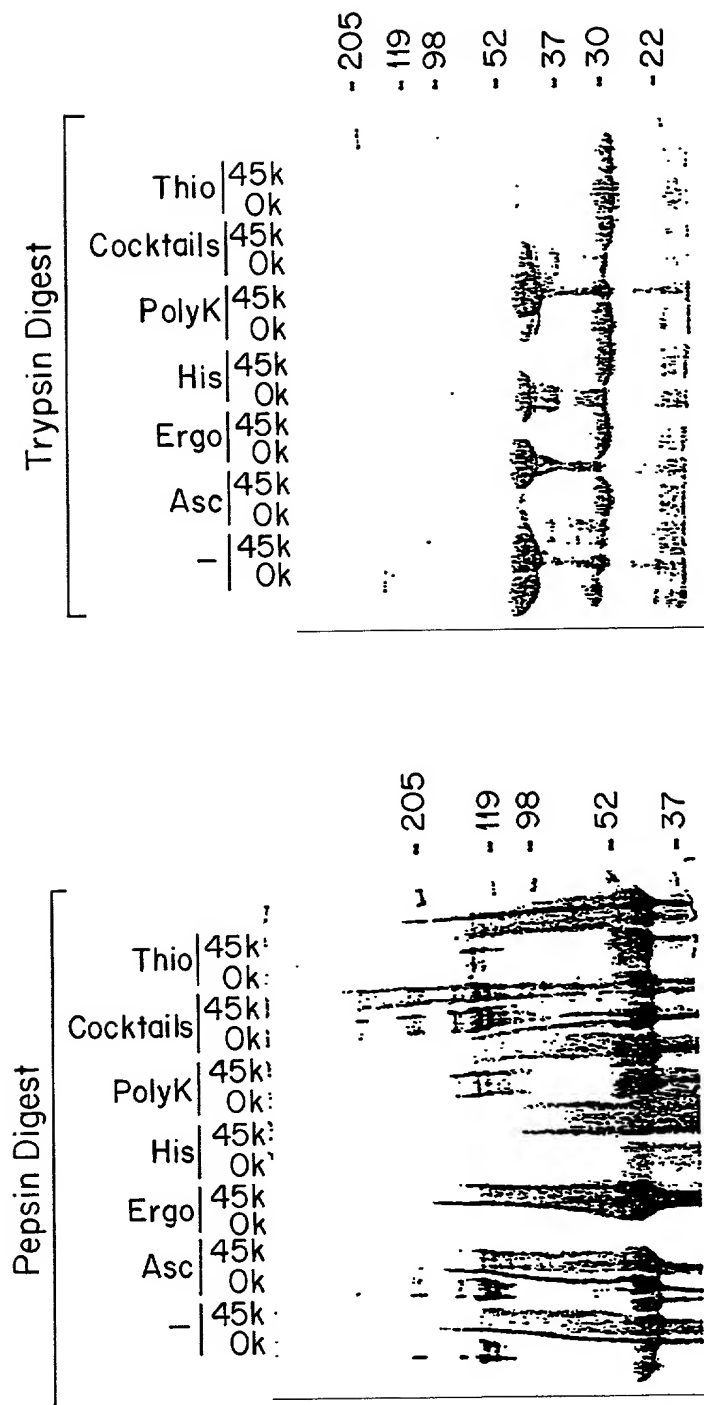
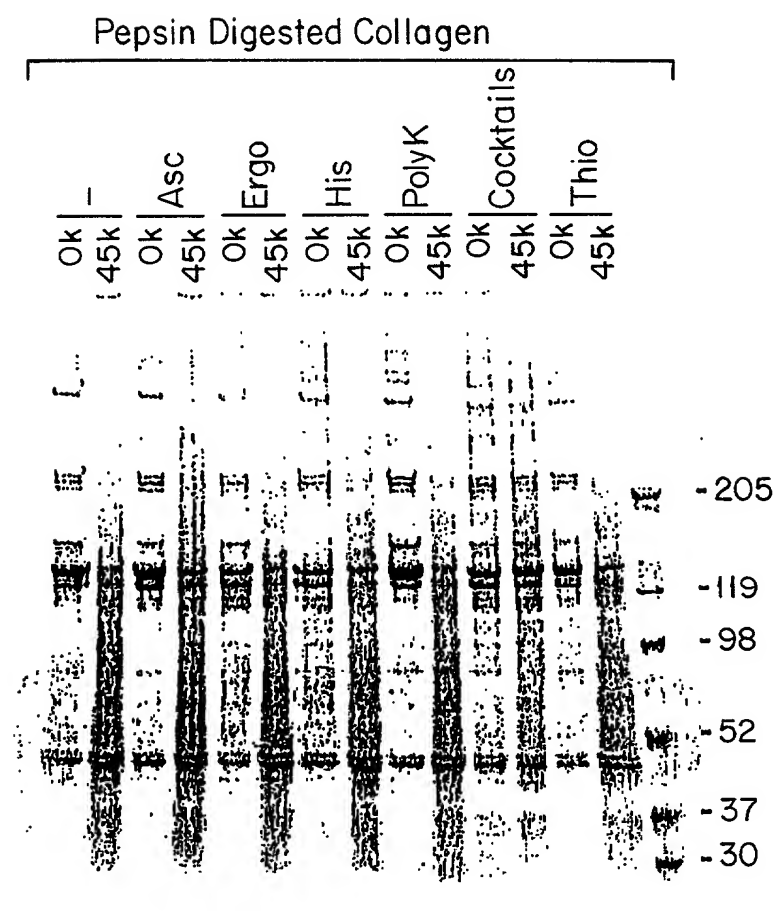
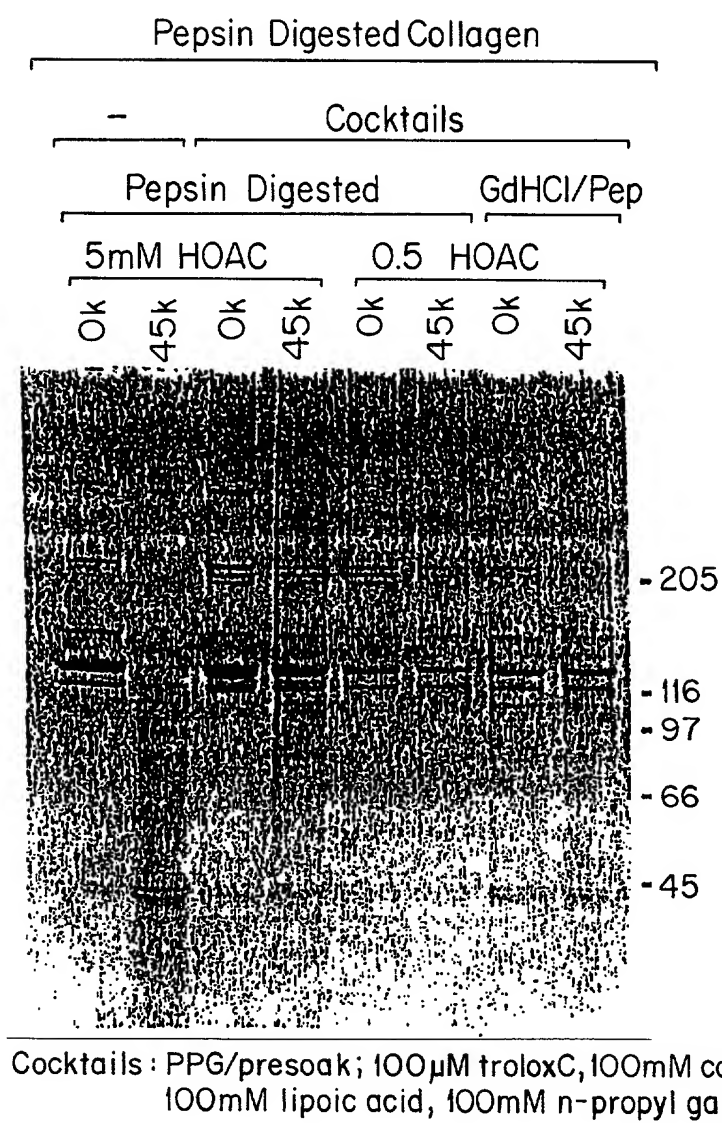


FIG. 6B



Cocktails: PPG/presoak; 100 μ M troloxC, 100mM courmeric acid, 100mM lipoic acid, 100mM n-propyl gallate

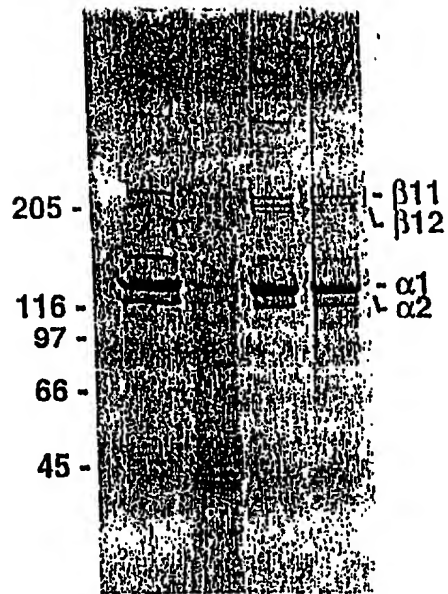
FIG. 6C



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FIG. 6D

Protectants: PPG/presoak;
100 μ M trolox^C,
100mM coumaric acid,
100mM lipoic acid, and
100mM n-propyl gallate



Dose (kGy)	0	45	0	45
Protectants	(-)	(-)	(+)	(+)

FIG. 6E

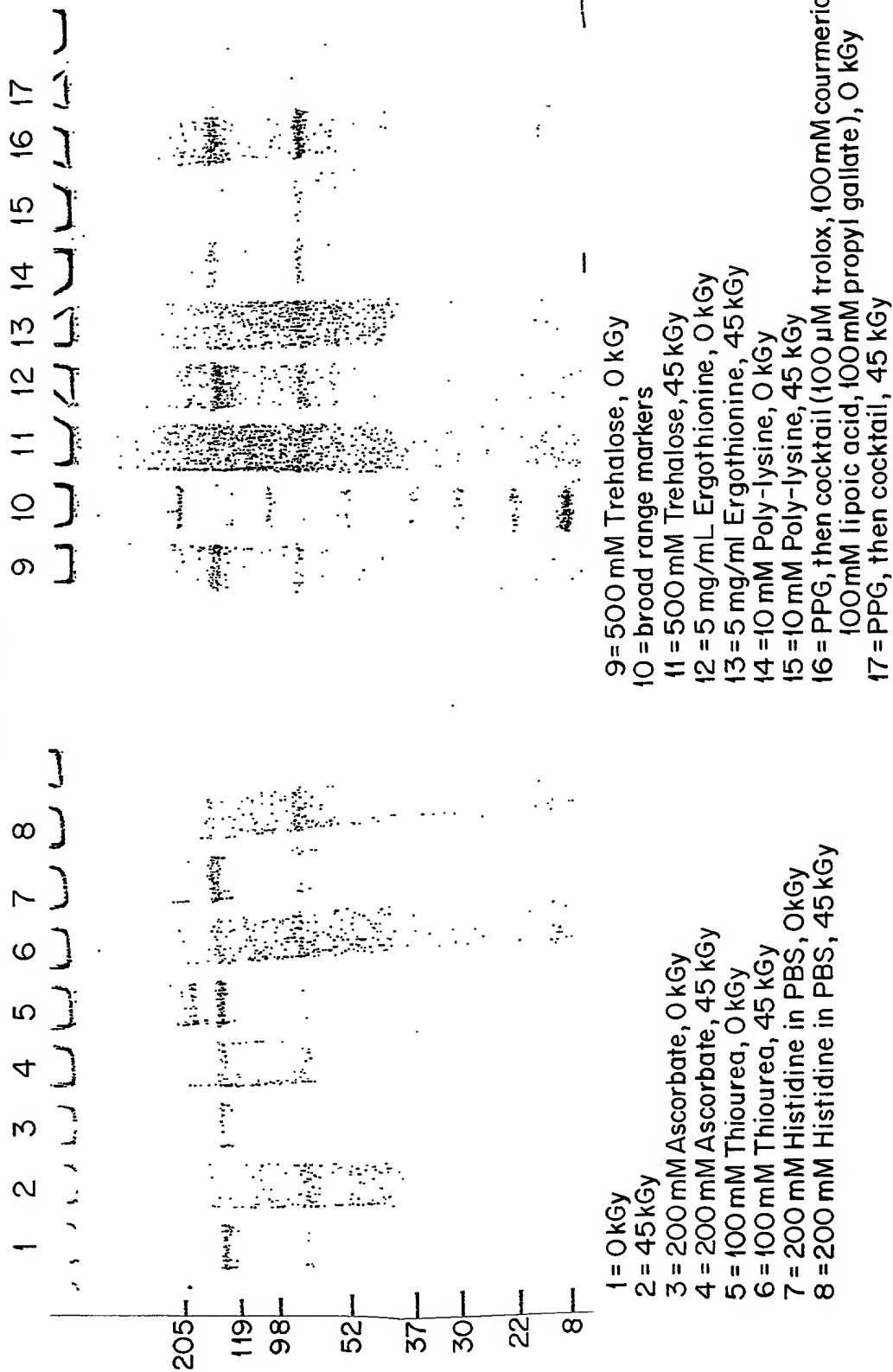


FIG. 6F

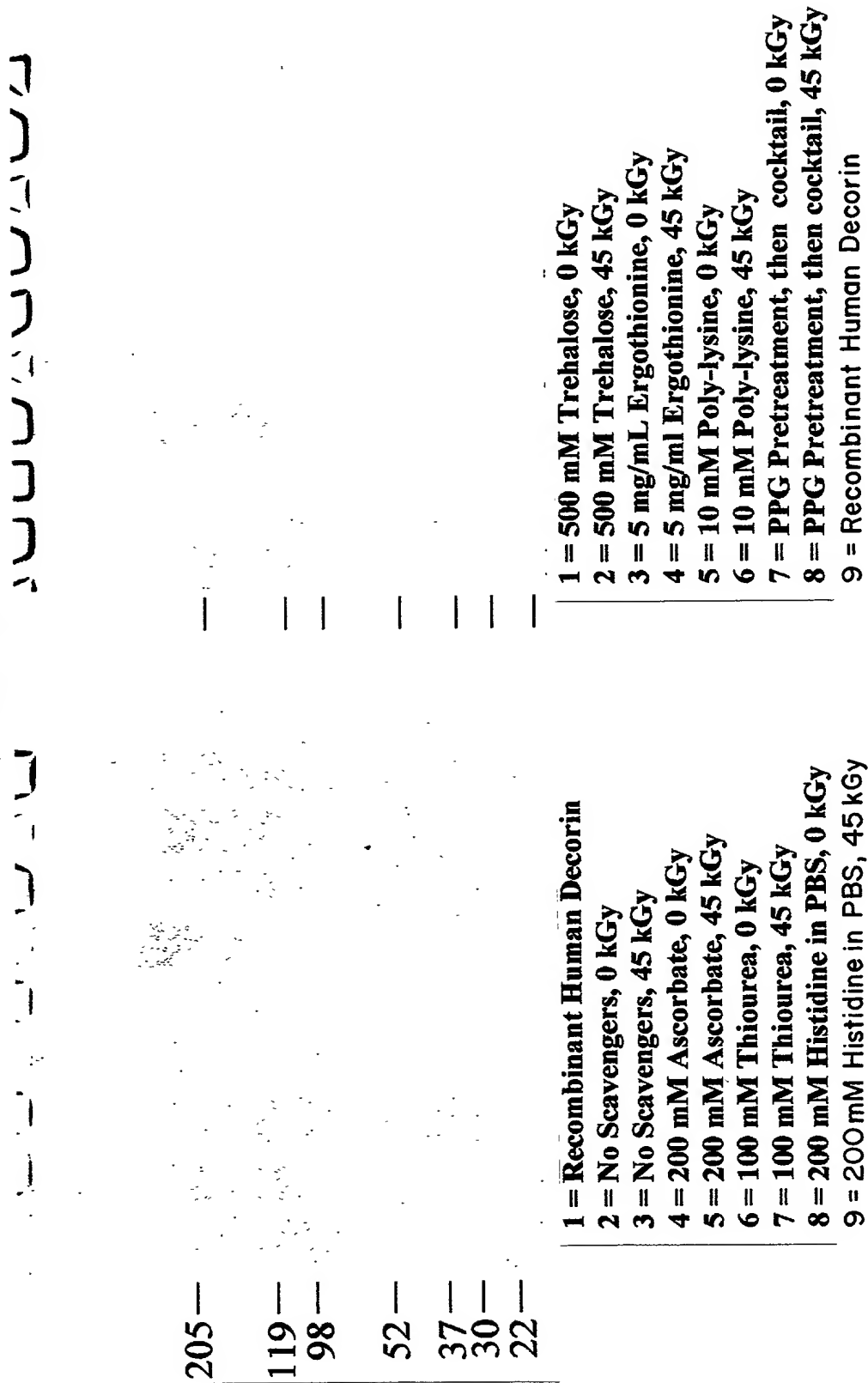
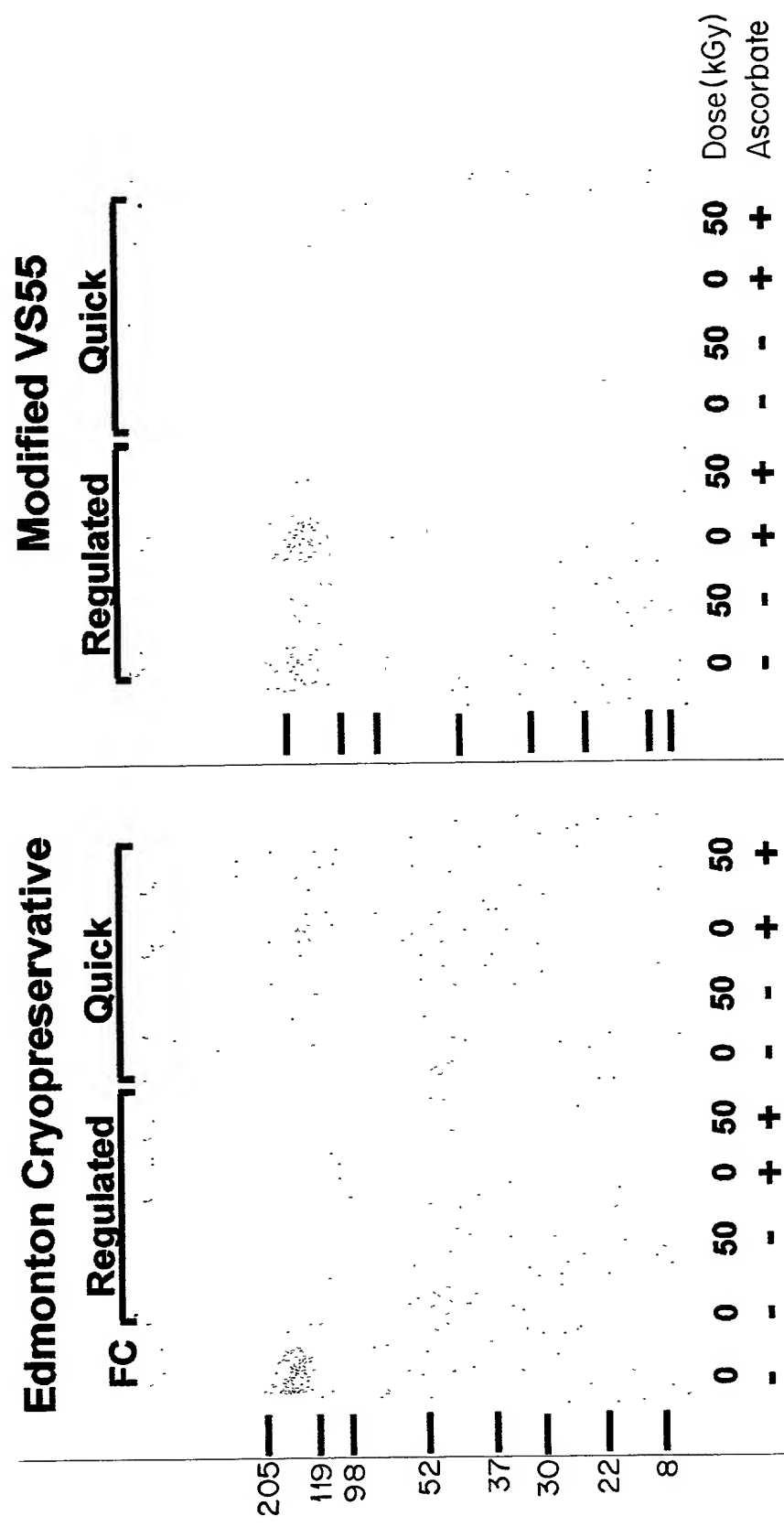


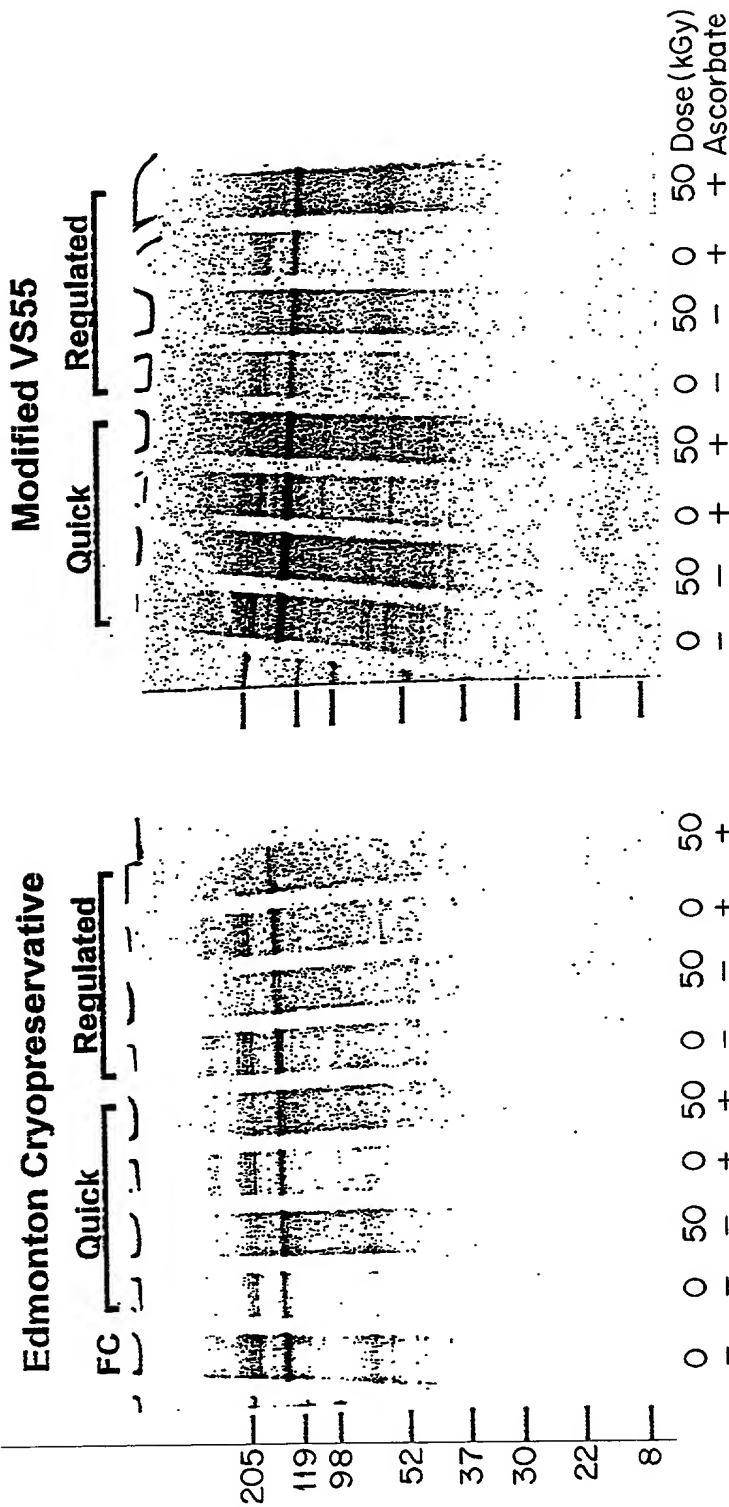
FIG. 7A



Edmonton CP: M199, 10% FCS, 2 M DMSO, Pen-Strep
Modified VS55: 100mM trehalose, 15mM KH₂PO₄, 42mM K₂HPO₄, 15mM KCl, 10mM NaHCO₃, 150mM mannitol, 24.2% DMSO, 16.8% 1,2-propanediol, 14% formamide

FC: fresh ACL control
Quick Freeze: dry-ice ethanol bath
Regulated Freeze: decrease in temp. of 1°C/min to -56-59°C, then placed in -80°C

FIG. 7B



Edmonton CP: M199, 10% FCS, 2 M DMSO, Pen-Strep

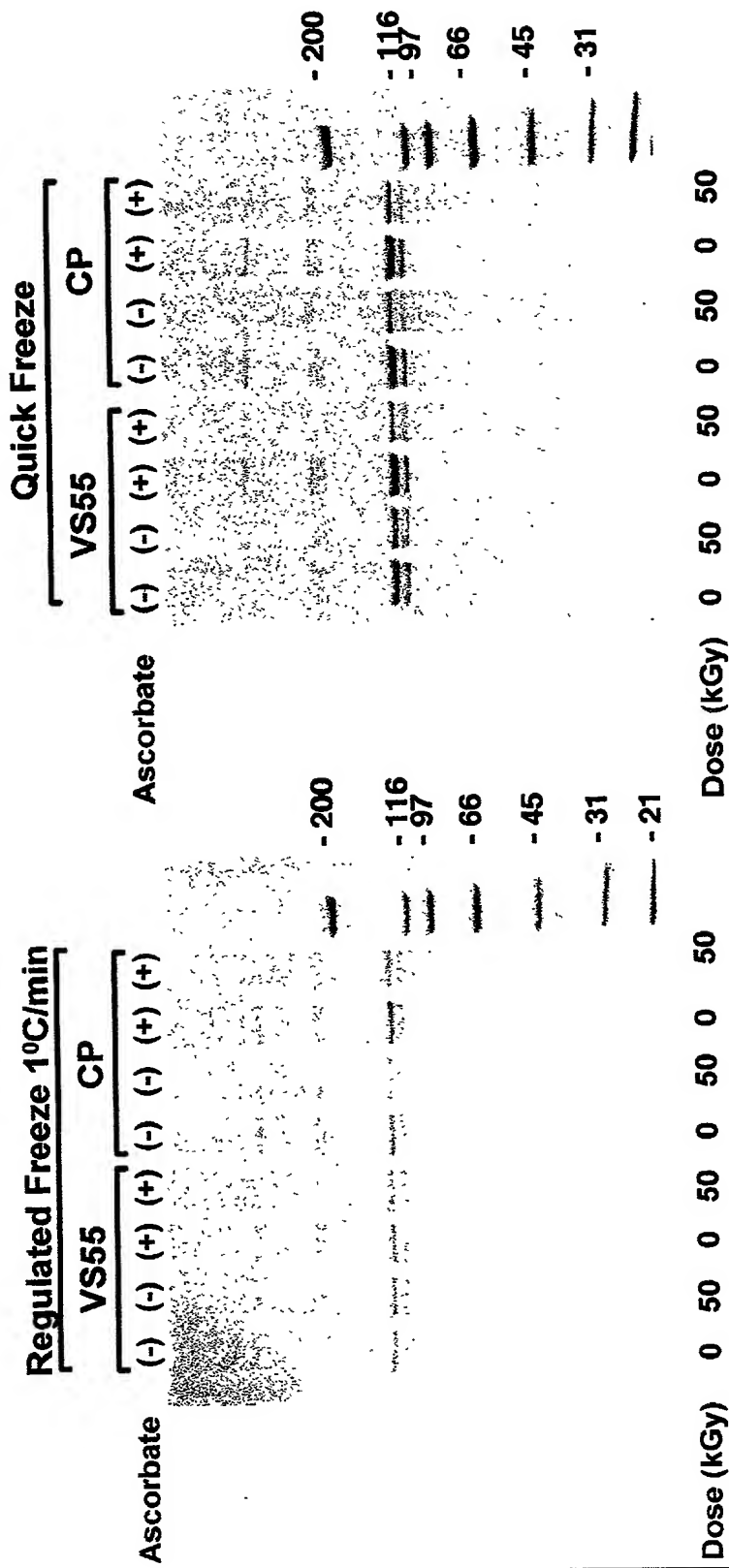
Modified VS55: 100 mM trehalose, 15 mM KH_2PO_4 , 42 mM K_2HPO_4 , 15 mM KCl, 10 mM NaHCO_3 , 150 mM mannitol, 24.2% DMSO, 16.8% 1, 2-propanediol, 14% formamide

FC: fresh ACL control

Quick Freeze: dry-ice ethanol bath

Regulated Freeze: decrease in temp. of $1^\circ\text{C}/\text{min}$ to -56 – -59°C , then placed in -80°C

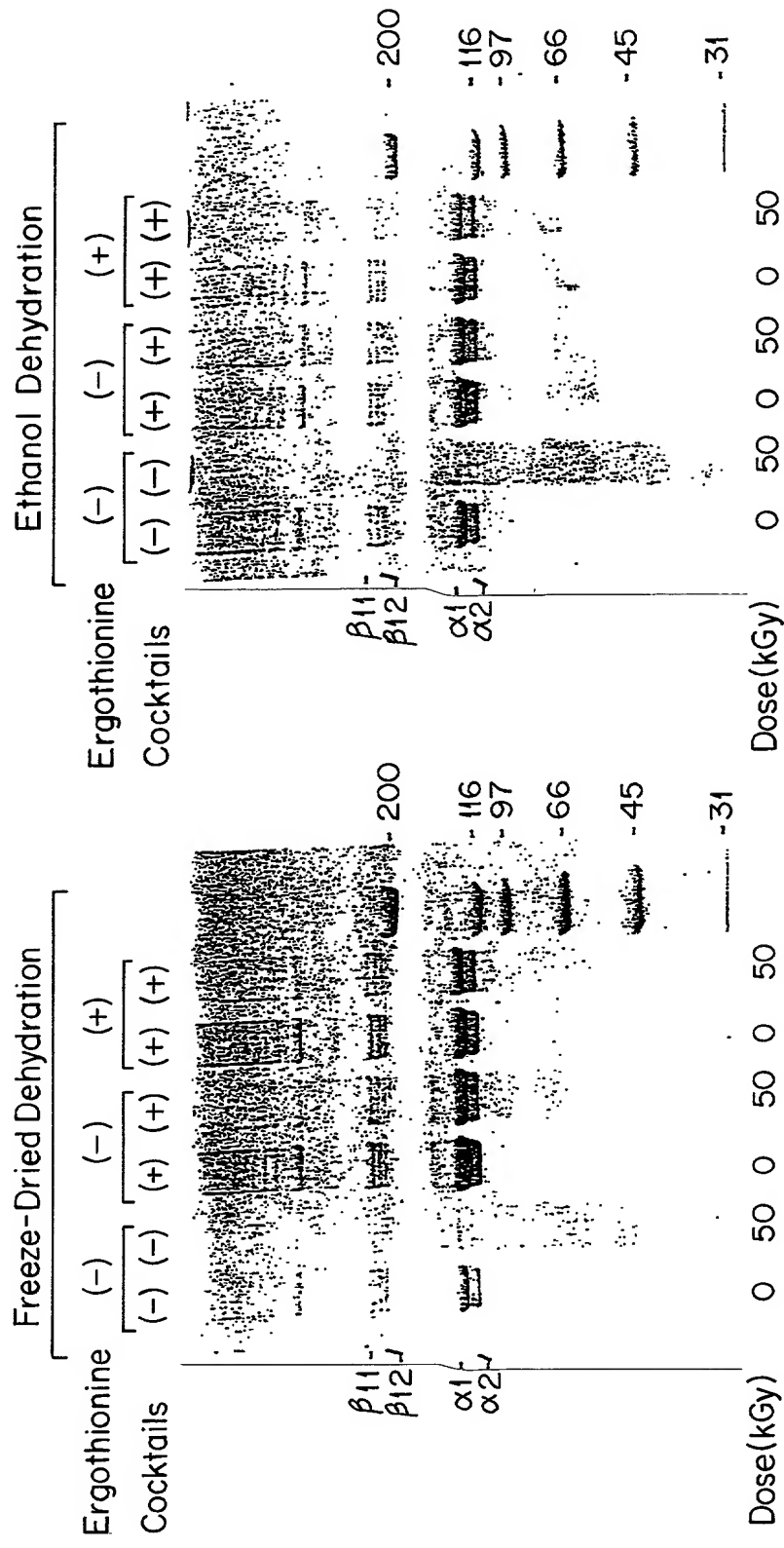
FIG. 7C



VS55: 100mM trehalose, 15mM KH₂PO₄, 42mM K₂HPO₄, 15mM KCl, 10mM NaHCO₃, 150mM mannitol, 24.2% DMSO, 16.8% 1, 2-propanediol, and 14% formamide

CP: 10% FCS, Penicillin-streptomycin, M199, and 2M DMSO

FIG. 8



Cocktails: 100 μ M troloxG, 100mM courmeric acid, 100mM lipoic acid, 100mM n-propyl gallate

FIG. 9A

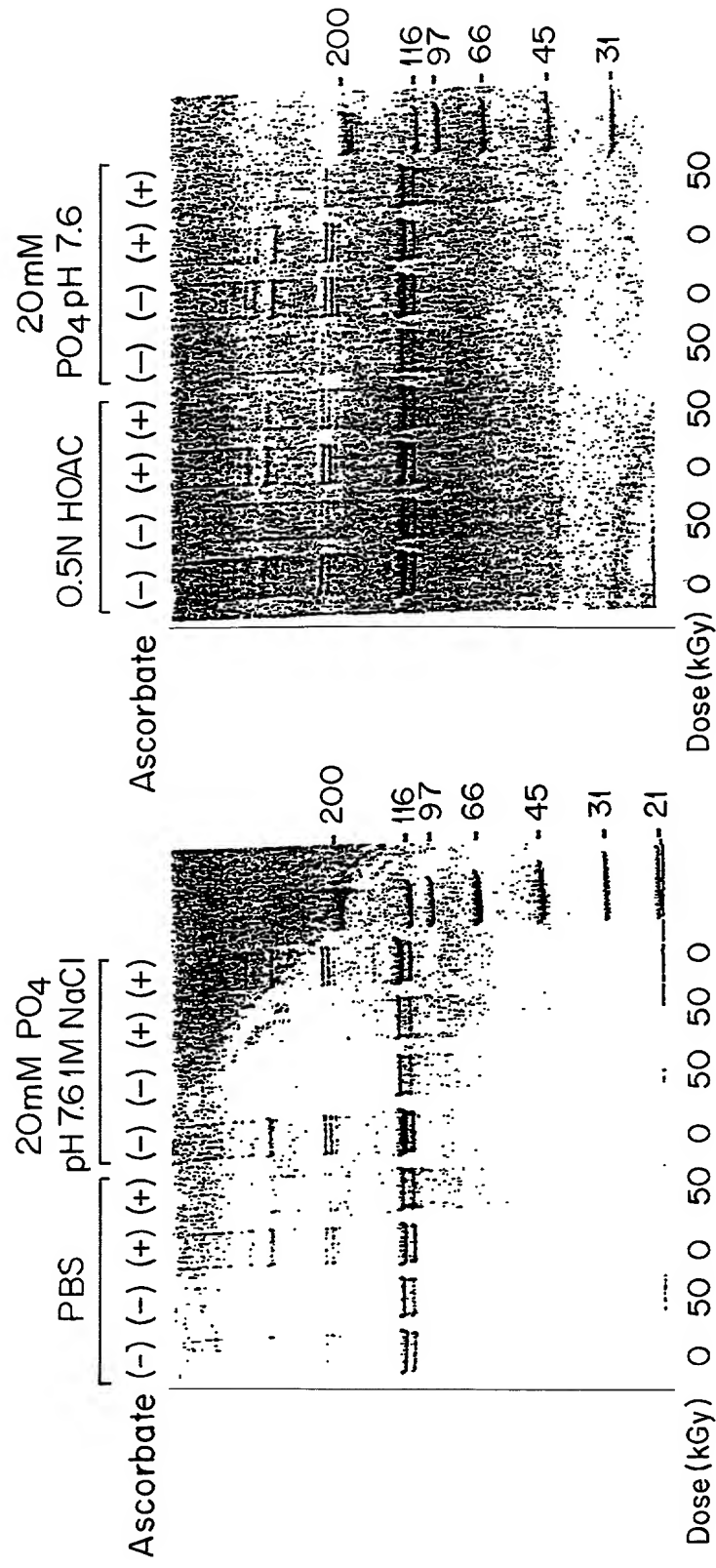


FIG. 9B

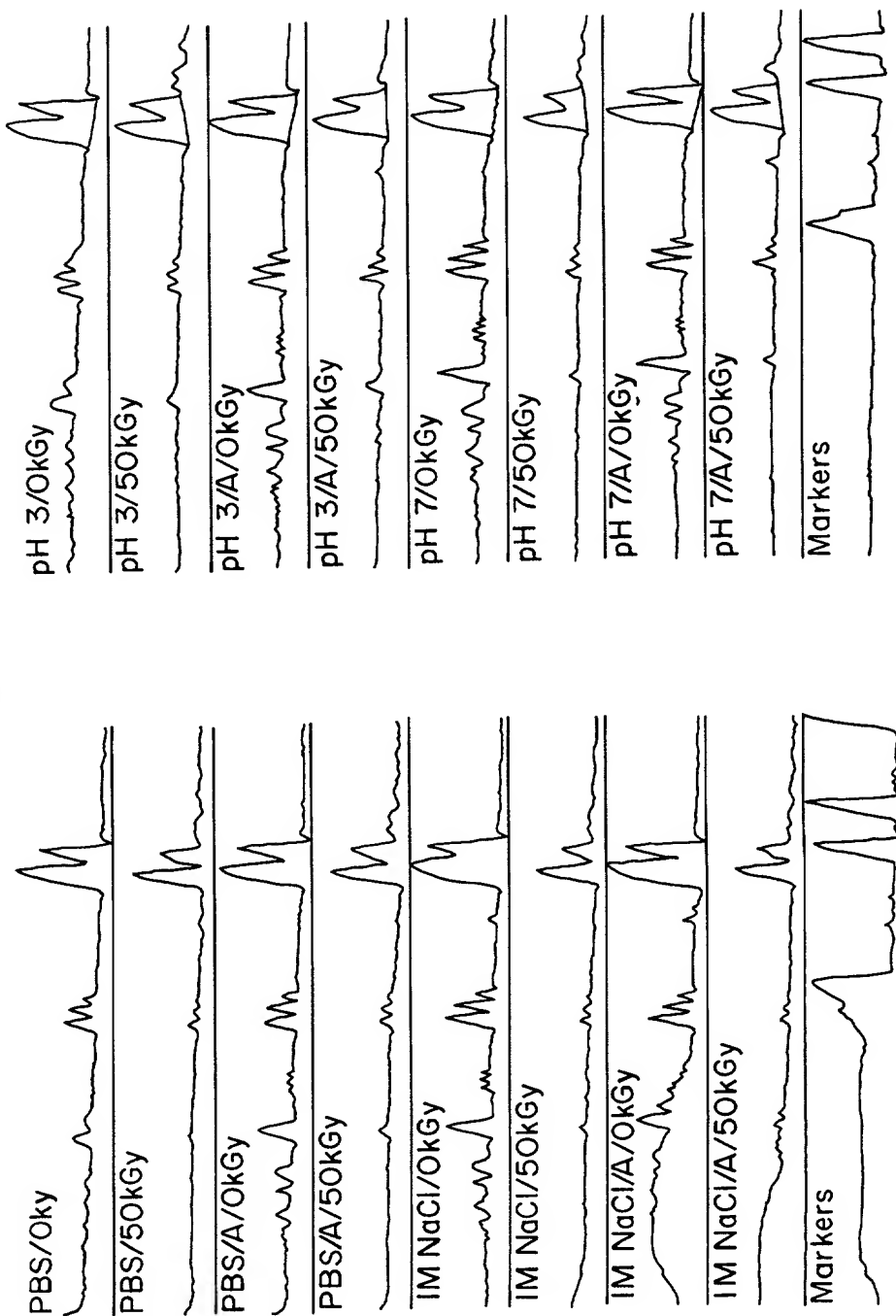


FIG. 10

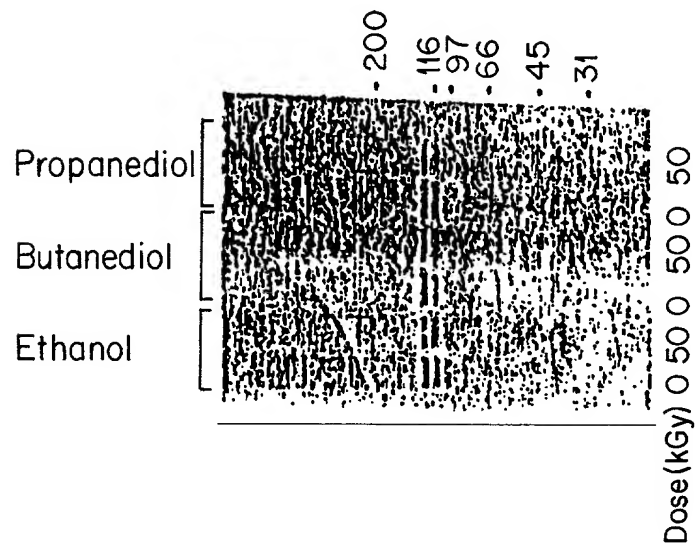


FIG. 11

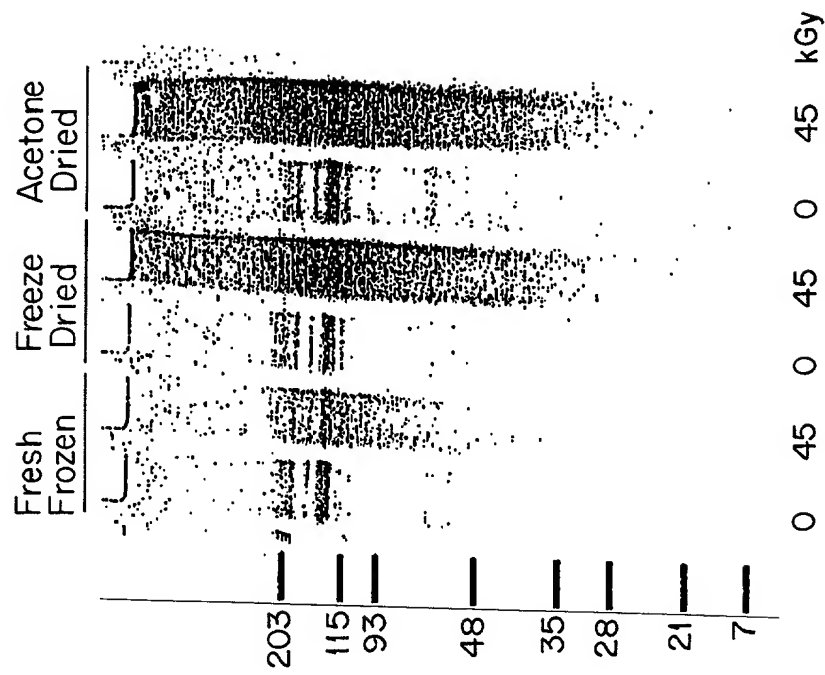


FIG. 12A

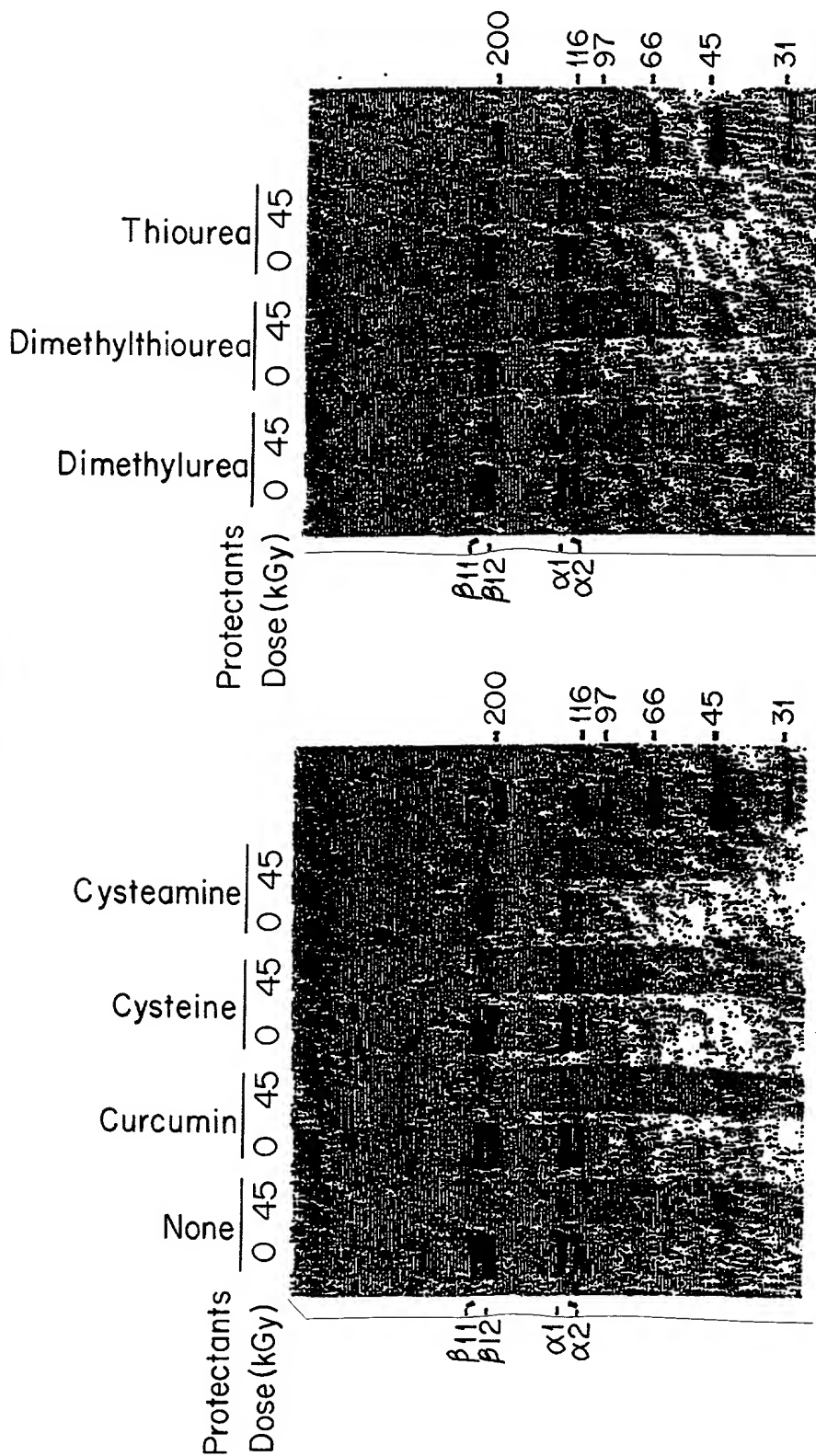


FIG. 12B

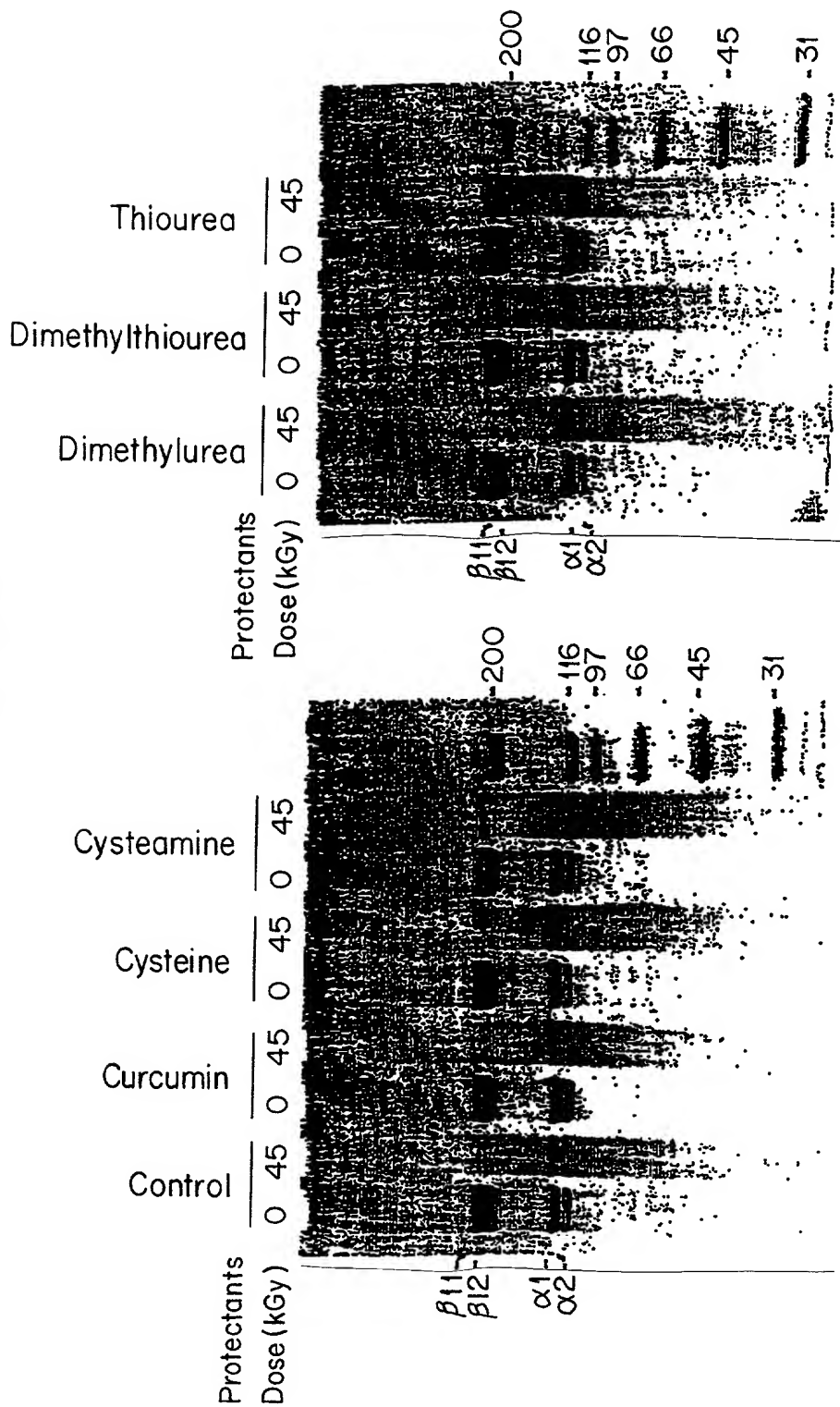


FIG. 12C

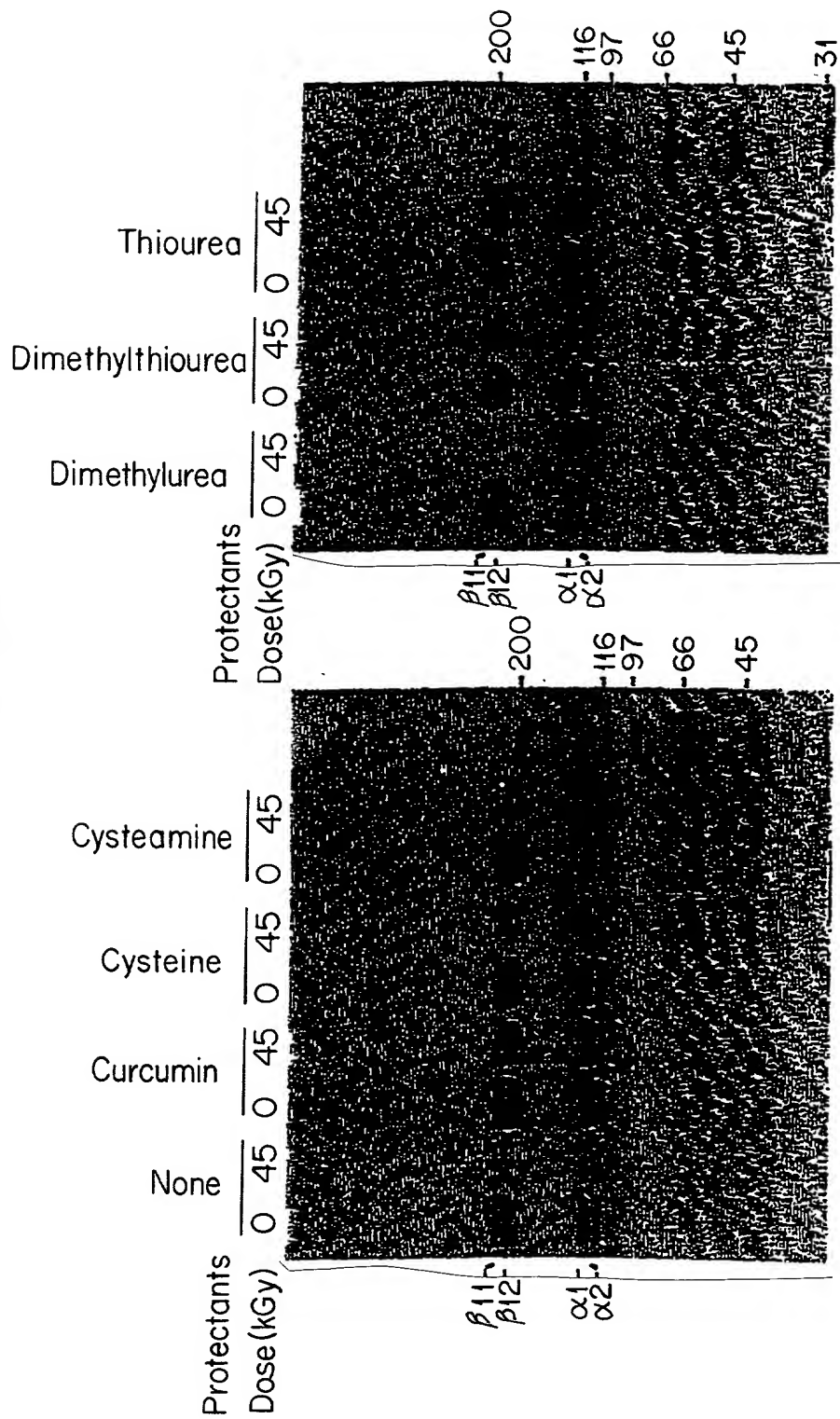


FIG. 13

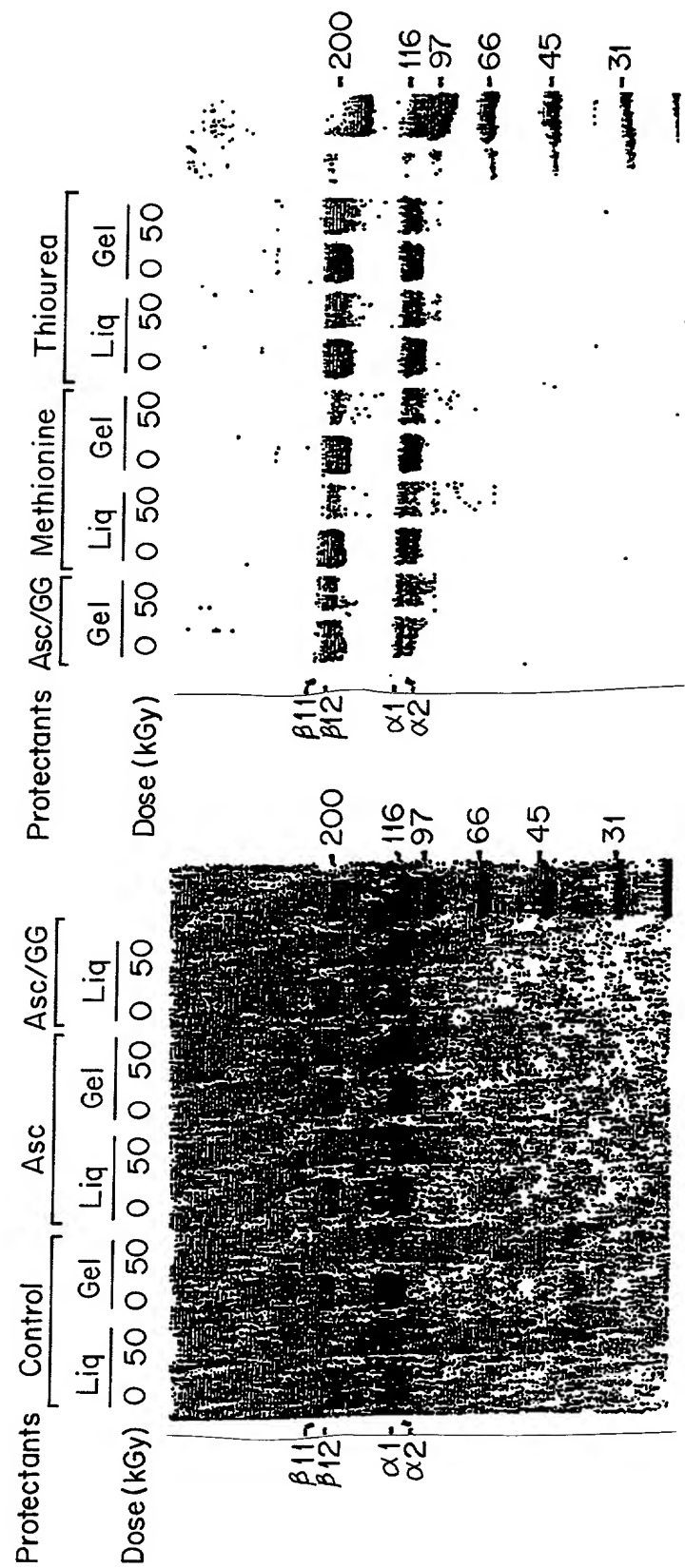
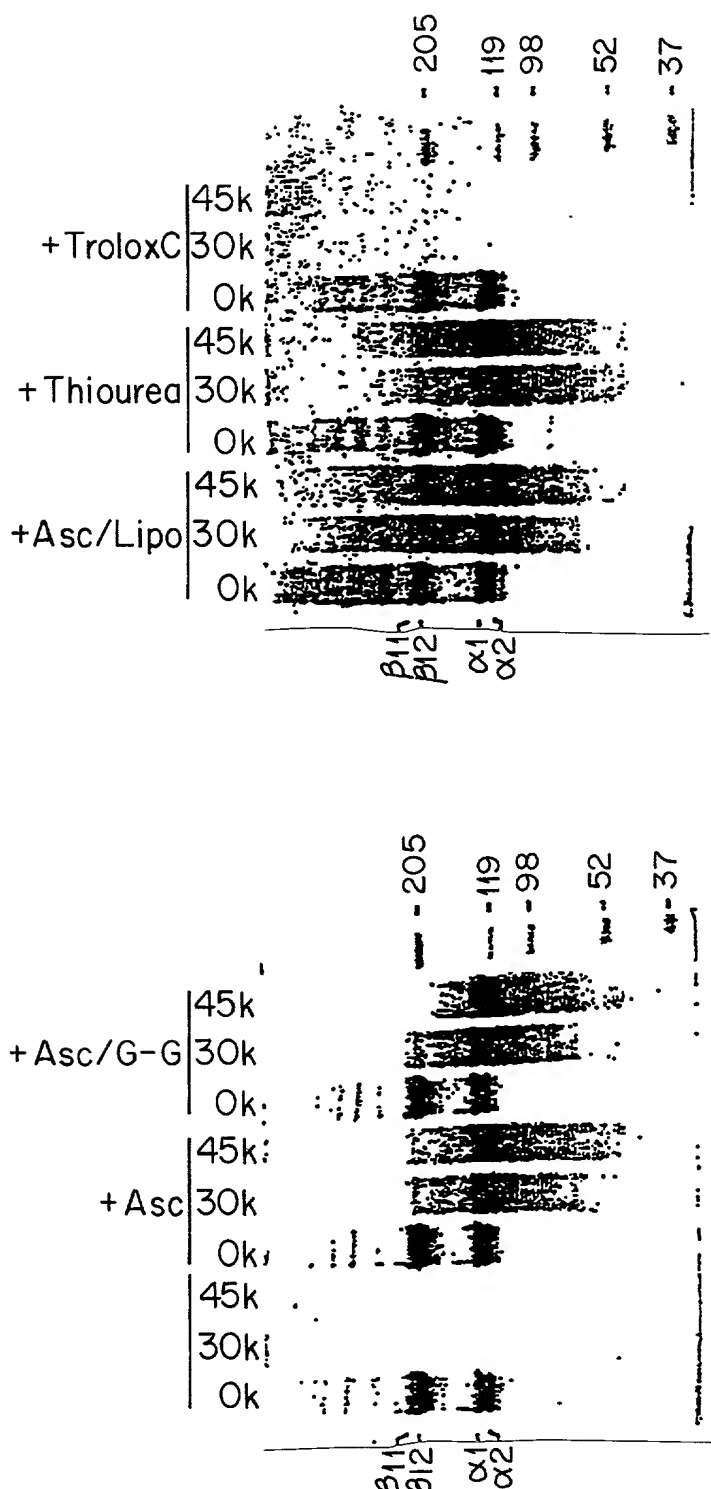


FIG. 14B



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FIG. 14C

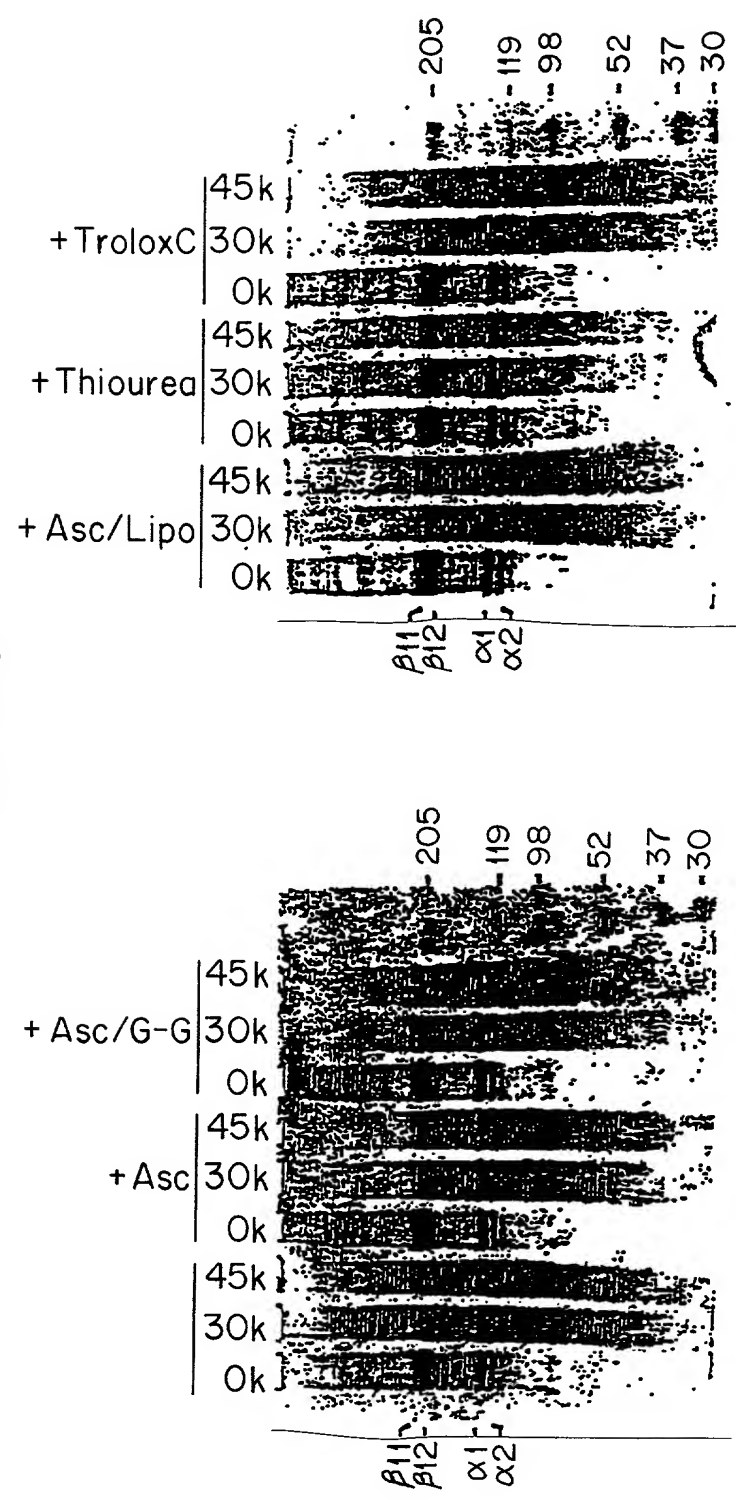


FIG. 14D

